An Overview of the Canadian Agriculture and Agri-Food System

May 2005

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Canada

AN OVERVIEW OF THE CANADIAN AGRICULTURE AND AGRI-FOOD SYSTEM

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May 2005

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FOREWORD

This 2005 report provides an economic overview of the Canadian agriculture and agri-food system. It begins by looking at the contribution of the system to the whole economy, then each segment of the agri-food chain is reviewed, going upstream from consumers to food distribution, food, beverage and tobacco (FBT) processing, primary agriculture, all the way to input supply. Charts, figures and tables with brief accompanying texts are used to summarize information and to provide base performance indicators.

This report is meant to be a multi-purpose reference document to provide:

- an introduction to the agriculture and agri-food system;
- a snapshot of structural changes that are occurring throughout the system in response to various factors; and
- background data and information to inform public discussions on issues facing Canadian agriculture.

The report reveals the Canadian agriculture and agri-food system to be a highly complex, integrated and internationally competitive supply chain that is a growing part of the Canadian economy. It is a resilient system undergoing continuous change and facing challenges as it adapts to the forces of changing consumer demands, advancing technology, North American integration and globalization.

HIGHLIGHTS

- The agriculture and agri-food system plays an important role in the Canadian and provincial economies, providing one in eight jobs and accounting for 8.3% of total Gross Domestic Product (GDP) in 2003.

- While primary agriculture is at the heart of the agriculture and agri-food system, the system is much more than just agricultural production. It encompasses processing and distribution activities as well. Food, beverage and tobacco (FBT) processing is the second largest contributor to manufacturing GDP and is the largest manufacturing employer. Food retail is the second largest consumer good expenditure category and foodservice the third largest consumer service expenditure category.

- Changing demands of consumers, at home and abroad, are influencing changes throughout the whole agriculture and agri-food system. Consumers are demanding more variety, more convenience and healthier food choices, accompanied by proper assurances of quality and safety. But Canadians still enjoy some of the lowest cost food in the world with food and non-alcoholic beverages purchased from stores accounting for only a 10% share of household expenditures.

- Each stage of the system is becoming more consolidated and larger in scale of operation. The five largest food retailers in Canada account for about 60% of national grocery sales, up from 50% a decade ago. Large food processing establishments comprise only 5% of the total number of establishments but account for half of the value of processed shipments. While only one-third of census farms have sales over $100,000, these farms account for nearly 90% of all farm production.

- Productivity performance growth in most sectors of the agriculture and agri-food industry has been exceeding the overall business sector average. Between 1997 and 2003, primary agriculture production (which includes forestry, fishing and hunting) had one of the fastest growing labour productivity rates in the economy with an annual growth rate of 4.8%. The multifactor productivity growth rate was around 3%. This exceeds the business sector average of 2.1% for labour productivity and 1.5 % for multifactor productivity growth. Better management practices, industry restructuring, and genetic and technological advances all contributed to this strong productivity growth. During this same period, multifactor productivity growth in food-only processing was slightly lower than primary agriculture at just below 2%, while labour productivity growth was 3.4%. Research is indicating that one of the biggest drivers of this productively growth in food-only processing has been public infrastructure investment.

- The system is becoming more internationally focussed both in terms of investment and trade. Accumulated foreign direct investment (FDI) in the system has more than doubled since 1990, and in 2003 was valued at

$36.5 billion. At the same time, Canadian food processing and retail firms have been expanding abroad and now rank among the world's top food processing and retail firms.

- Export opportunities are critical for the growth of most agriculture industries. Canada was the fourth largest exporter of agriculture and agri-food products in the world in 2003, after the EU(15), the U.S. and Brazil, with exports valued at $24.4 billion. Canada was also the fifth largest importer of agriculture and agri-food products with imports valued at $20.6 billion.
- The value of total export sales for 2004 Canadian agriculture and agri-food has increased by over $2 billion from 2003. The total volume of grains, oilseeds and special crop exports has increased by 29% over the poor harvest of 2003. However, there are still issues in the meats sector. In May 2003, exports of ruminant live animals and their meat products were effectively shut down with the closure of the U.S. and other countries' borders in reaction to the detection of BSE in Canada. The partial reopening of the U.S. border in September 2003 to certain boneless meat cuts from cattle under 30 months-old brought some relief. Bone-in meat cuts were permitted in April 2004, but the live cattle ban remained. Cattle and beef export sales in 2004 were only 48% of their value in 2002. Also, in late 2004, the U.S. announced preliminary countervailing duties and antidumping duties on Canadian swine imports, but this did not have a large effect on live hog sales during the final few months of 2004. In addition, exports continue to be negatively affected by the appreciating dollar.
- Because agriculture producers differ widely in terms of commodity specialization, scale of operation, motivation for farming and financial performance, the income impact of this year will vary by individual producers. In general top performers tend to have better cost control which, along with government program funding, will help them weather the financial difficulties.
- For the most part, Canadian primary agriculture producers are less dependent on policy support, as measured by the Producer Support Estimate (PSE), than European producers. In 2004, the PSE for Canada was 21% of adjusted value of production, a little above the U.S. PSE at 18%, but still well below the EU(15) PSE at 34%.

SECTION A

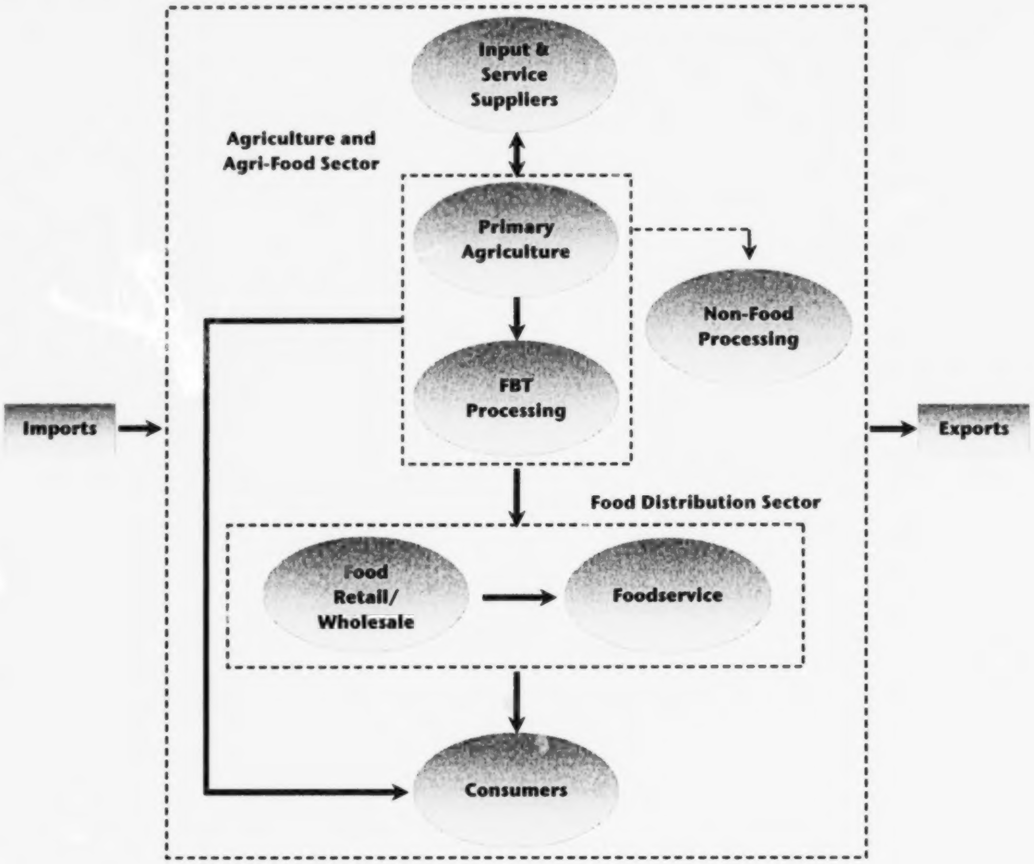
The Agriculture and Agri-Food System and the Canadian Economy

The agriculture and agri-food system is a complex integrated chain...

- **The Canadian agriculture and agri-food system is a complex integrated production and distribution chain of industries that supplies food, beverage and tobacco to both Canadian and international consumers. It is an integral part of the global economy with trade occurring at each stage in the chain.**

The component industries include agricultural input and service suppliers, primary agriculture, food beverage and tobacco (FBT) processing, food retail/wholesale and foodservice[1]. The agriculture and agri-food sector encompasses both primary agriculture and food processing. The food distribution sector is made-up of food retail/wholesale and foodservice.

The Agriculture and Agri-Food System


Input & Service Suppliers
Agriculture and Agri-Food Sector
Primary Agriculture
Non-Food Processing
FBT Processing
Imports
Exports
Food Distribution Sector
Food Retail/ Wholesale
Foodservice
Consumers

... that is evolving

- **The agriculture and agri-food system continues to evolve. Some of the factors driving structural changes within the system include changing consumer demands, knowledge-intensive technology, North American integration and globalization.**

Lines of division between different stages in the system are blurred. For example, grain companies can simultaneously act as food processors, livestock feed producers, input wholesalers of livestock feed, farm product wholesalers and grain exporters.

There is a general trend toward increasing scale of operation across the system. Each stage is becoming more concentrated and consolidated. At the same time, supply chains within the system are becoming more tightly vertically coordinated.

Supply Chain Initiatives

In an effort to respond to changing consumer demands, to increase supply chain efficiencies and to reduce production and transaction costs, various kinds of supply chain initiatives are being undertaken in the agriculture and agri-food system. These initiatives generally fall under two categories: initiatives that provide closer vertical coordination between different stages of the supply chain and initiatives that involve horizontal coordination.

Initiatives that Provide Closer Vertical Co-ordination

Firms are vertically integrating by investing in businesses in other stages of the supply chain. Maple Leaf Foods Inc. is an example of a company that has holdings throughout the supply chain. Its businesses include feed manufacturing (Landmark Feeds and Shur-Gain), hog production (Elite Swine), pork packing (Maple Leaf Pork Co.), further pork processing (Maple Leaf Consumer Foods Co.) and rendering (Rothsay Co.)[2].

Value chains are developing as firms at different levels in the supply chain work together to meet specific market objectives. Organic products are examples of value chains. Firms at each stage of the supply chain must ensure that the chemical-free integrity of the product is maintained.

Firms are using contractual arrangements to gain greater control over the quality of their inputs and products. Wendy's International, Inc., for example, requires suppliers to meet their standards for the humane treatment of animals, and uses audits to make sure the standards are being upheld[3]. Warburtons Bakery in Great Britain contracts with Prairie growers for specific Canadian Western Red Spring wheat varieties that must meet certain quality standards.

Initiatives that Involve Horizontal Co-ordination

Firms at each stage of the supply chain also work together to meet specific market objectives. The main objectives of most producer, processor, grocer and foodservice associations are market promotion, exchange of information and the establishment of a political voice. More recently, horizontal initiatives have been focusing on product quality improvement. At the producer level, for example, 19 commodity associations have launched or are in the process of developing national on-farm food safety and quality assurance initiatives under the Canadian On-Farm Food Safety (COFFS) Program .

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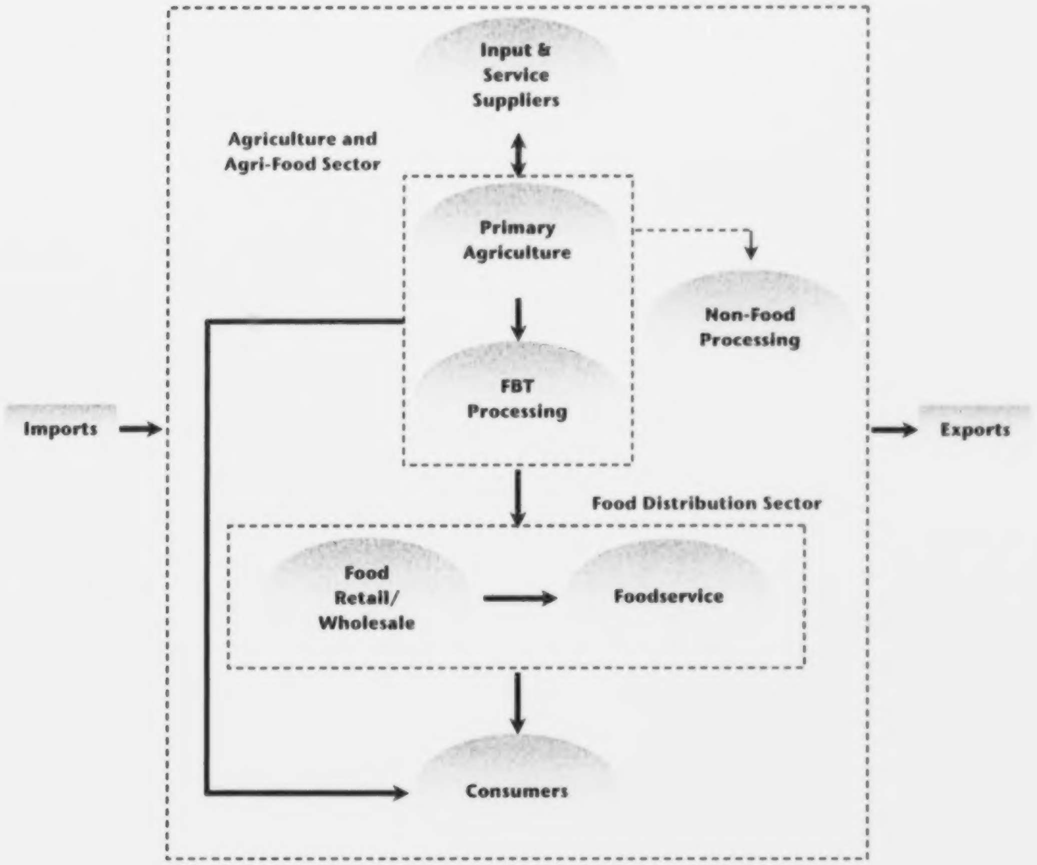
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SECTION A1

GDP and Employment

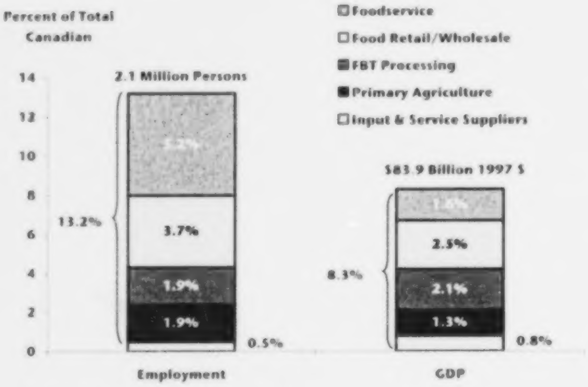
The agriculture and agri-food system plays a significant role in the Canadian economy

- **The Canadian agriculture and agri-food system provides one in eight jobs, employing nearly 2.1 million persons.** The system also indirectly generates employment in transportation and other economic sectors.

  In 2003, it accounted for 8.3% of total Canadian Gross Domestic Product (GDP).

Chart A1.1

The Agriculture and Agri-Food System's Contribution to Employment and GDP, 2003



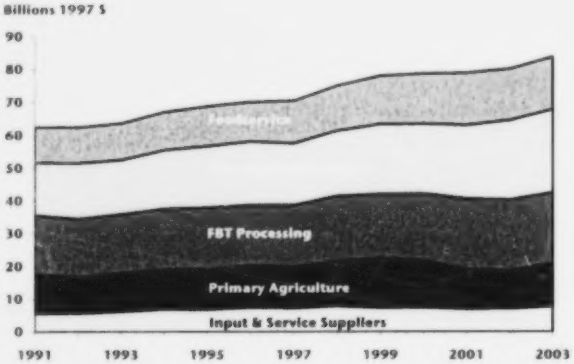
Source: Statistics Canada and AAFC calculations.

- **Value-added production is leading the growth of the system.** Food retail is the fastest growing component with an average annual growth rate of 3.3% followed by input suppliers with an average annual growth rate of 2.7%.

  The overall system has been growing in size at a little more than 2% per annum, which is under the growth rate of the overall economy.

Chart A1.2

The Agriculture and Agri-Food System's Contribution to GDP, 1991-2003



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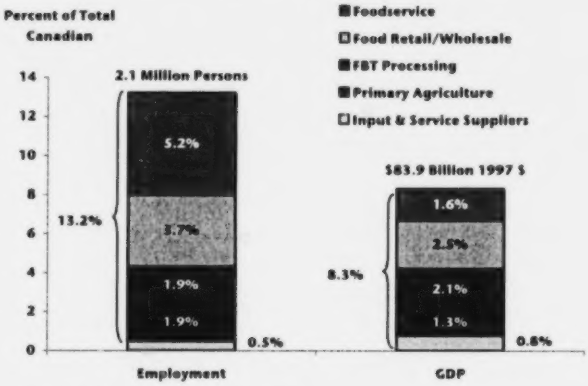

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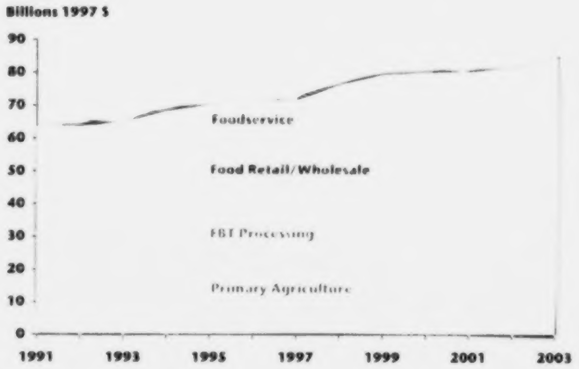


Source: Statistics Canada and AAFC calculations.

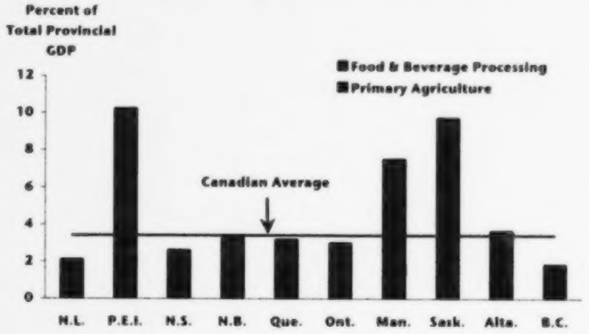
It is also important to provincial economies as a source of income

- **In terms of contribution to total provincial GDP, the agriculture and agri-food sector plays the largest role in Prince Edward Island and Saskatchewan each claiming a 10% share, and Manitoba with a 7.5% share.**

  The mix between primary agriculture and food and beverage processing also varies across the country. East of Manitoba food and beverage processing accounts for the majority of the agriculture and agri-food sector's share of provincial GDP. In the Prairies, primary agriculture plays the more important role.

Chart A1.3

The Agriculture and Agri-Food Sector's Contribution to Provincial GDP, 2003



Source: Conference Board of Canada and Statistics Canada.

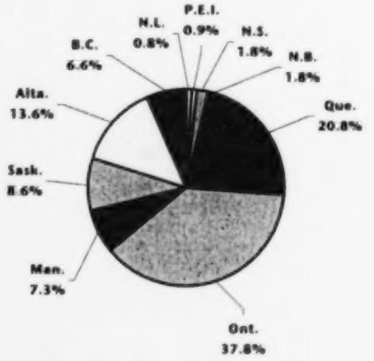
Note: Canadian average also includes Tobacco processing.

- **The size of the agriculture and agri-food sector varies across Canada.**

  In 2003, Ontario, Quebec and Alberta accounted for 71% of total Canadian agriculture and agri-food sector GDP.

Chart A1.4

The Provincial Contribution to Total Canadian Agriculture and Agri-Food Sector GDP, 2003



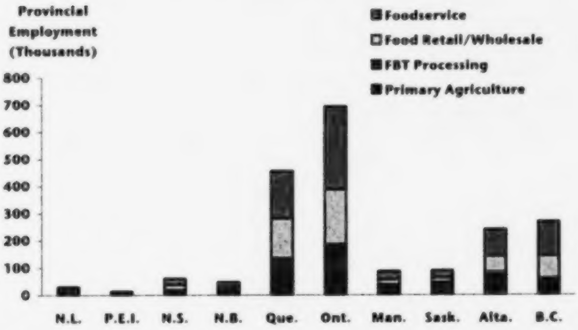
Source: Conference Board of Canada.

...and as a major employer

- **While Ontario and Quebec have the most people employed in the agriculture and agri-food system ...**

Chart A1.5

Provincial Employment in Agriculture and Agri-Food System, 2003



Source: Statistics Canada and AAFC calculations.

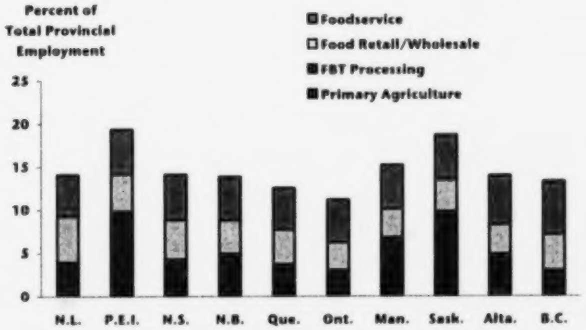
Note: Provincial input & service suppliers have been excluded because of reliability and confidentiality data concerns with many of its component industries.

... the system accounts for the largest shares of provincial employment in Prince Edward Island and Saskatchewan...

Where primary agriculture and processing industry account for more than 50% of this total, while in most provinces, employment in food distribution accounts for the largest share of total employment in the agriculture and agri-food system.

Chart A1.6

The Agriculture and Agri-Food System's Share of Provincial Employment, 2003



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The agriculture and agri-food sector is a large purchaser of other sectors' products and services...

- **Primary agriculture is a large user of energy products and repair and maintenance services.**

For example in 2001, it purchased nearly 8% of all industrial diesel oil used, accounting for 6% of the total value of diesel production in Canada.

Chart A1.7

Primary Agriculture's Variable Cost Purchases of Other Sectors' Output, 2001

	Primary Agriculture's Purchases		
	Expenditure (Millions $)	Share of Total Industry Purchases (%)	Share of Total Domestic Output (%)
Energy Purchases			
Diesel oil	583	7.6	6.3
Motor gasoline	331	6.2	2.3
Electric power	638	3.6	2.1
Repair & Maintenance Purchases			
Repair construction	867	4.4	4.4
Automotive repair and maintenance service	203	4.8	2.1
Lubricating oils and greases	67	5.8	4.9
Other Purchases			
Non-life insurance	360	5.4	2.6
Accounting and legal services	721	4.7	4.2

Source: Statistics Canada.

Note: The I-O commodities are at the worksheet level.

- **FBT processing is a major purchaser of paper, fabricated metal products, plastic, glass and glass products.**

It is also an important user of advertising and promotion services.

Chart A1.8

FBT Processing's Purchases of Other Sectors' Output, 2001

	FBT Processing's Purchases		
	Expenditure (Millions $)	Share of Total Industry Purchases (%)	Share of Total Domestic Output (%)
Advertising and promotion[1]	1,672	7.8	7.8
Packaging Purchases			
Paper boxes, cartons and drums[1]	1,632	42.2	39.9
Other metal end products[2]	1,095	52.8	61.3
Plastic containers and closures[3]	1,147	13.1	11.7

Source: Statistics Canada.

Note:
1) The I-O commodities are at the worksheet level.
2) The I-O commodities are aggregated at the link level. The animal food manufacturing, sugar and confectionery product manufacturing and tobacco manufacturing industries are excluded due to confidentiality reason.
3) The I-O commodities are aggregated at the link level. The breweries industries are excluded due to confidentiality reason.

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...and in turn is a key supplier

- **At the same time the agriculture and agri-food sector is a key supplier to other industries.**

For example, in 2001 the agriculture and agri-food sector supplied $202 million worth of fuel wood (or 25% of all fuel wood produced).

It also supplied $284 million worth of raw animal hides and skins, $59 million of which was used as input into the domestic leather and hide manufacturing industry.

Chart A1.9

Other Sector's Purchases of Agriculture and Agri-Food Sector's Output, 2001

	Primary Agriculture Output	FBT Processing Output	Agriculture and Agri-Food Sector Output	Output of all Domestic Industries
	(Millions $)			
Other forestry products including fuel wood and cork	202	0	202	796
Raw animal hides and skins	2	282	284	303
Animal and vegetable fertilizers, imputed	378	0	378	378
Animal by-products for industrial use	213	13	226	225

Source: Statistics Canada.

Note: The I-O commodities are at the worksheet level except for the raw animal hides and skins and the animal by-products for industrial use for FBT processing, are aggregated at the link level.

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SECTION A2

International Trade

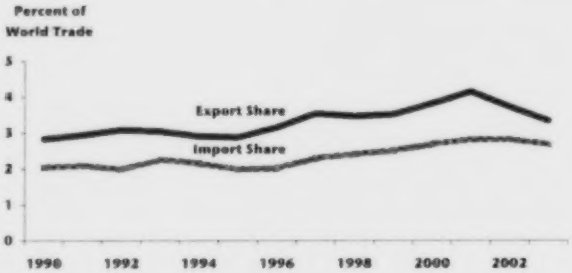
Canada is a major player in world agri-food trade

- **Canada's export and import share of world agriculture and agri-food trade grew steadily during the 1990's.** However over the last three years, Canada's export share has been negatively impacted by several factors that are discussed in this section and fell below 3%.

  In 2003 Canada exported $24.4 billion in agriculture and agri-food products and imported $20.6 billion.

Chart A2.1

Canada's Share of World Agriculture and Agri-Food Trade, 1990-2003

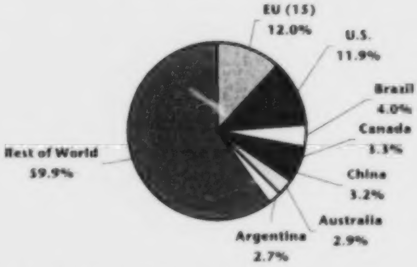


Source: Statistic Canada, FAO and AAFC calculations.

- **Canada is the fourth largest agriculture and agri-food exporter,** after the EU(15), the U.S. and Brazil and is ahead of China, Australia and Argentina.

Chart A2.2

World Agriculture and Agri-Food Export Share by Country of Origin, 2003



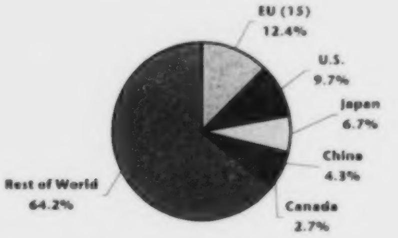
Source: Statistic Canada, FAO and AAFC calculations.

Note: Excludes EU(15) intra-regional trade.

- **Canada is the fifth largest agriculture and agri-food importer,** after the EU(15), the U.S., Japan and China.

Chart A2.3

World Agriculture and Agri-Food Imports Share by Country of Origin, 2003



Source: Statistic Canada, FAO and AAFC calculations.

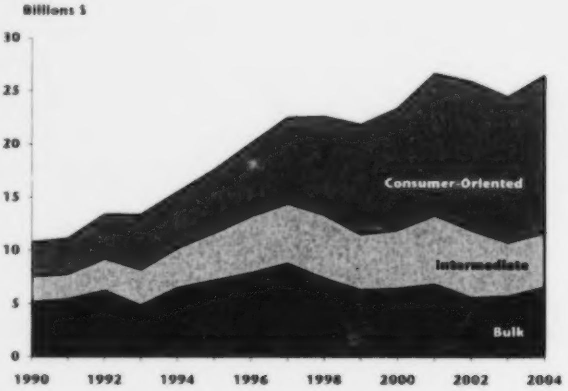
Note: Excludes EU(15) intra-regional trade.

Trade growth is being driven by value-added products

- **The export value of consumer-oriented products has more than quadrupled since 1990, and now makes up more than one-half of all export sales.**

Canadian agriculture and agri-food export sales have declined in the last three years. This reflects a combination of factors including adverse growing conditions (i.e. Prairie droughts and grasshopper infestations) in 2001 and 2002 , trade restrictions due to the discovery of bovine spongiform encephalopathy (BSE), and a stronger Canadian dollar.

Chart A2.4
Agriculture and Agri-Food Export Sales, 1990-2004

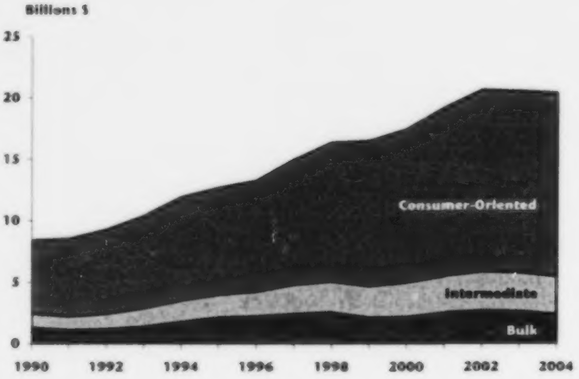


Source: Statistics Canada and AAFC calculations.

- **Consumer-oriented products also make up the majority of Canadian agriculture and agri-food imports,** accounting for 73%.

Consumer-oriented products have roughly maintained a 70% share over the last decade.

Chart A2.5
Agriculture and Agri-Food Import Purchases, 1990-2004



Source: Statistics Canada and AAFC calculations.

Trade growth is being driven by value-added products

- **The export value of consumer-oriented products has more than quadrupled since 1990, and now makes up more than one-half of all export sales.**

  Canadian agriculture and agri-food export sales have declined in the last three years. This reflects a combination of factors including adverse growing conditions (i.e. Prairie droughts and grasshopper infestations) in 2001 and 2002 , trade restrictions due to the discovery of bovine spongiform encephalopathy (BSE), and a stronger Canadian dollar.

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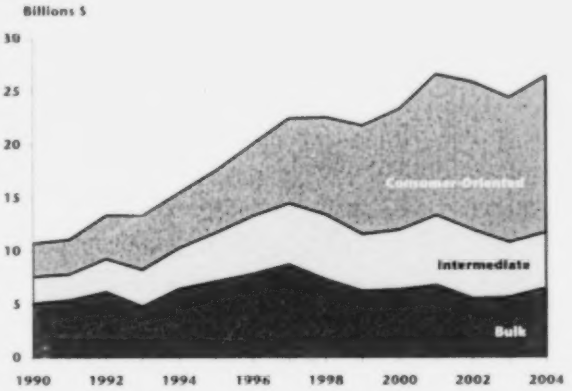

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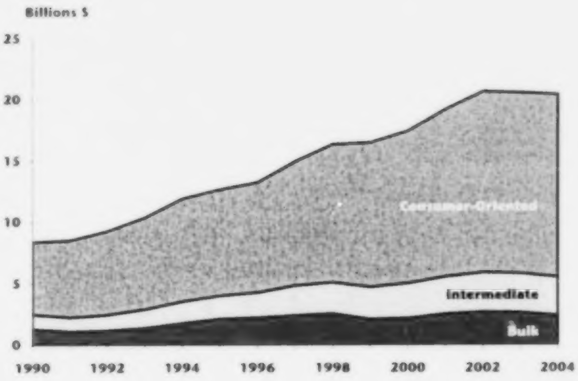


Source: Statistics Canada and AAFC calculations.

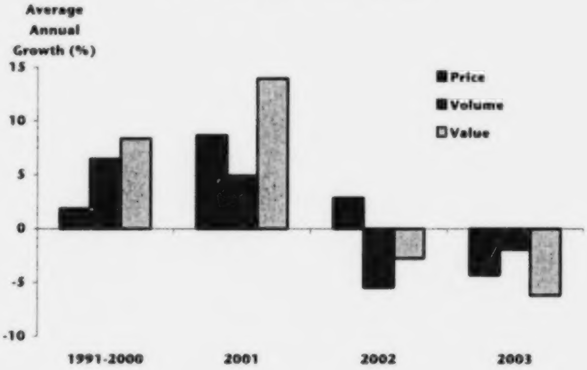
Both volume and price affect annual fluctuations in trade growth

- **The observed growth in Canadian agriculture and agri-food exports between 1991-2001 is attributable to both price and volume growth.** In 2002, however, the price increase was not sufficient to offset reduced grain supplies available for exports.

In 2003, the decline in the value of exports was augmented by BSE-related export restrictions and the appreciation of the Canadian dollar.

Chart A2.6

Agriculture and Agri-Food Export Sales, Price and Volume Growth, 1991-2003



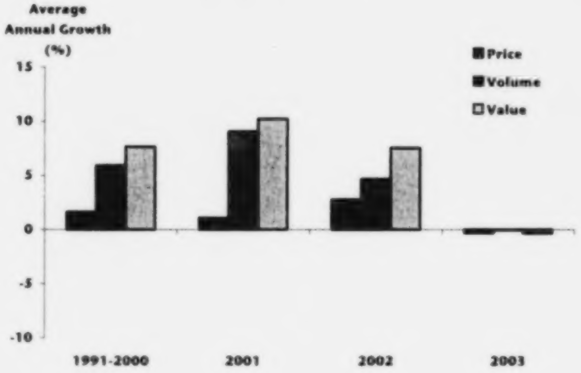
Source: Statistics Canada and AAFC calculations.

- **Most of the increase in agriculture and agri-food import purchases since the 1990's is due to volume growth.** Import volume has grown at an average annual rate of 5.6% in the 1990's while price has increased at an average annual rate of 1.5%.

In 2003, import value fell, partly due to the increased value of the Canadian dollar.

Chart A2.7

Agriculture and Agri-Food Import Purchases, Price and Volume Growth, 1991-2003



Source: Statistics Canada and AAFC calculations.

Product composition of export sales is different than that of import purchases

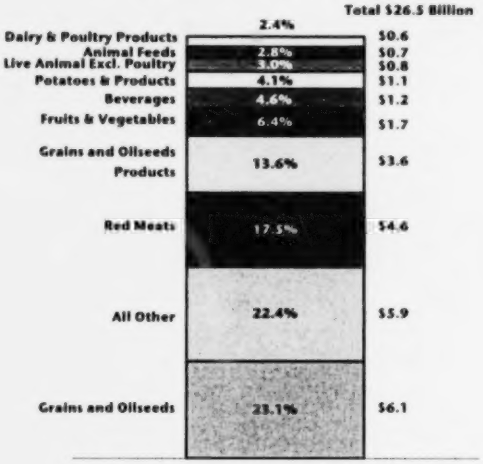
- **The composition of Canadian export sales is varied.** Grains and oilseeds and their products account for over one-third of the total value of agriculture and agri-food exports.

  Live animals and red meats normally account for another 25%. In 2003, however, the share of live animals and red meats dropped to 20% and has remained at this level for 2004.

  Dairy and poultry products account for less than 3% of the total value of agriculture and agri-food exports.

Chart A2.8

Commodity Composition of Export Sales, 2004



Source: Statistics Canada and AAFC calculations.

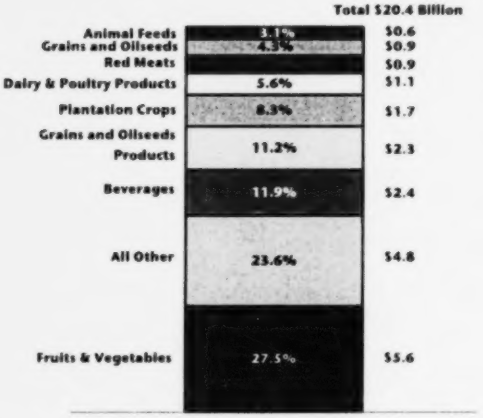
- **The commodity mix of raw commodity imports is different than that for exports.** For example, consider the grains category. While wheat and barley make up the bulk of Canadian grain exports, rice and corn comprise most of Canadian grain imports.

  In contrast, the same types of consumer-ready products are both exported and imported (e.g., baked goods, soups, prepared meals, etc.).

  The most important categories of imports in 2004 were fruits and vegetables, with over a 27% value share, followed by beverages and grains and oilseeds products, both with roughly a 11% value share.

Chart A2.9

Commodity Composition of Import Purchases, 2004



Source: Statistics Canada and AAFC calculations.

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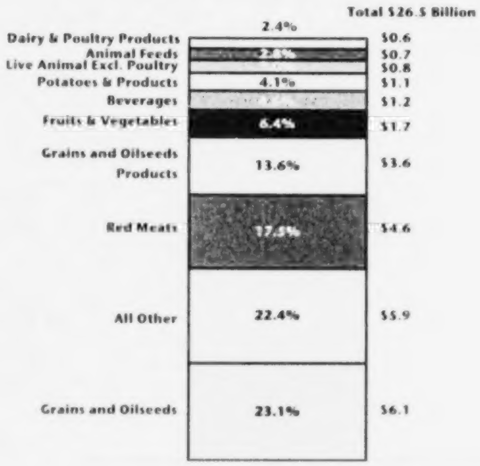

Source: Statistics Canada and AAFC calculations.

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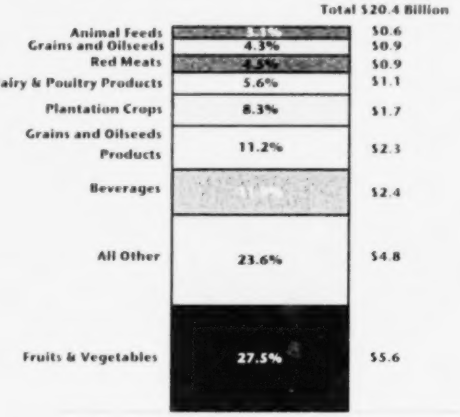


Source: Statistics Canada and AAFC calculations.

Live cattle and beef export sales have been severely affected by BSE, but recovery is underway

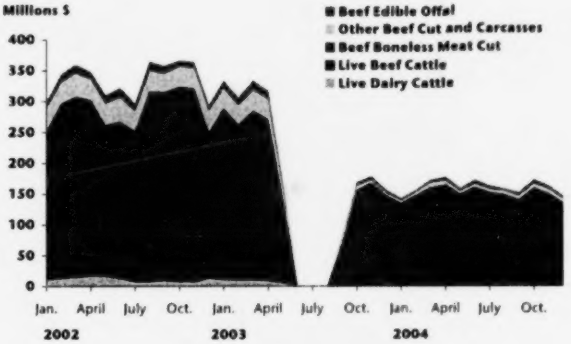
- **The closure of many borders, to imports of Canadian live ruminants and their meat products in May 2003, most importantly the U.S, effectively stopped these exports, causing ripple effects in the domestic supply chain.**

The discovery of a second North American case of BSE continued to impact live ruminant exports in 2004. Officials from all three countries continue to harmonize policies and regulations to expedite trade resumption*.

The partial reopening of the U.S. border to boneless meat cuts from cattle under 30 months of age in September 2003 and bone-in meat cuts from cattle under 30 months in April 2004, has brought some relief to red meat sales.

Chart A2.10

Export Sales of Live Cattle and Beef to all Countries, January 2002 to December 2004



Source: Statistics Canada and AAFC calculations.

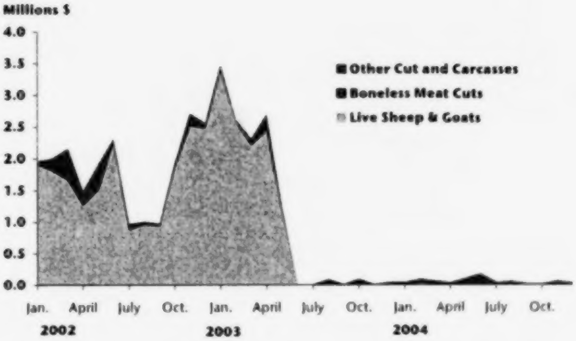
- **The May 2003 BSE crises also affected sheep and goat exports. In spite of the partial lifting of restrictions on sheep and goats under 12 months, exports have not rebounded as much as in the beef sector as the bulk of exports are traditionally live animals.**

Discussions are currently on-going with the U.S. to fully reopen the border, as well as continued negotiations to secure access to overseas markets.

Continued trade restrictions between Canada and the U.S. of older animals has caused downward price pressures. But Asian markets provided a key outlet for the cattle industry by paying premium prices for cuts that had little domestic value, such as beef tongue.

Chart A2.11

Export Sales of Live Sheep and Goats and Meat Products to all Countries, January 2002 to December 2004



Source: Statistics Canada and AAFC calculations.

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*At the time of printing (May 2005), Canada had been granted access to the U.S. for many of its beef products and access to Mexico for live animals. However, the U.S. government was in an advanced stage of its regulatory process to re-open trade to live cattle from Canada, but a court decision in Montana delayed the March 7, 2005 re-opening.

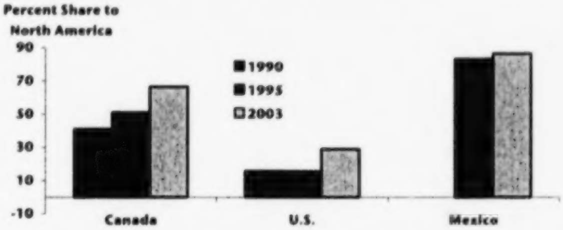
Trade is increasingly concentrated within the North American Market

- **The North American market is becoming increasingly integrated** resulting in a higher intensity of Canadian-U.S.-Mexican agri-food trade.

  Canada and Mexico are more export dependent on countries in NAFTA than the U.S.

Chart A2.12

The Share of Agriculture and Agri-Food Exports of NAFTA Countries that go to Other Countries in NAFTA, 1990, 1995 and 2003



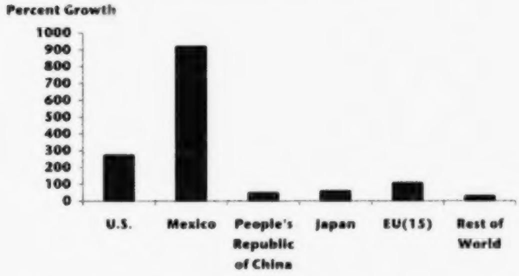
Source: Statistics Canada, Industry Canada, Global Trade Atlas and AAFC calculations.

Note: 1990 data for Mexico is unavailable.

- Agriculture and agri-food export sales to the U.S. have nearly tripled since 1990, while those to Mexico have increased nine-fold.

Chart A2.13

Growth in Canadian Agriculture and Agri-Food Exports by Country, 1990-2004



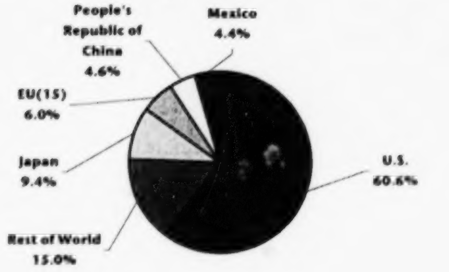
Source: Statistics Canada and AAFC calculations.

- **In 2004, the U.S. accounted for 61% of Canada's total agriculture and agri-food export sales.** This compares to a 63% share in 2003, and a 40% share in 1990. The drop in share relative to 2003 reflects, in part, the U.S. border closure due to B.S.E.

  The U.S. market is particularly important for consumer-oriented exports, accounting for 81% of the total export sales of these products.

Chart A2.14

Destinations of Canadian Agriculture and Agri-Food Exports, 2004



Source: Statistics Canada and AAFC calculations.

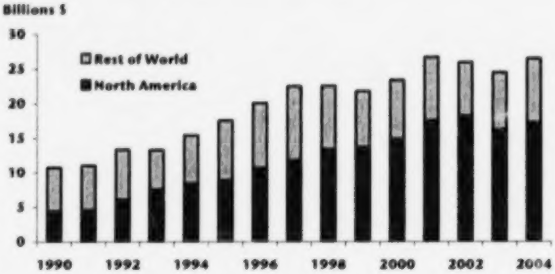
Trade with the rest of the world is holding steady

- **Agriculture and agri-food exports to the rest of the world have fluctuated between $8-9 billion roughly since the late 1990's.**

After the U.S., Japan is the next largest purchaser of Canadian agriculture and agri-food products, accounting for a 9% share in 2004, followed by the EU(15) with a 6% share (see Chart A2.14).

Chart A2.15

Agriculture and Agri-Food Exports to North America and Rest of World, 1990-2004

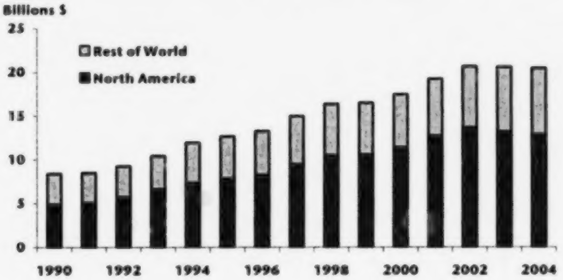


Source: Statistics Canada and AAFC calculations.

- **Imports from countries other than the U.S. and Mexico have more than doubled since 1990, imports from NAFTA members have nearly tripled.**

Chart A2.16

Agriculture and Agri-Food Imports from North America and Rest of World, 1990-2004

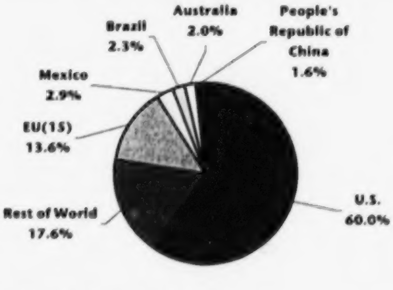


Source: Statistics Canada and AAFC calculations.

- **After the U.S., the EU(15) is Canada's main source of agriculture and agri-food imports** accounting for nearly 14% of total agriculture and agri-food imports.

Chart A2.17

Country Sources of Canadian Agriculture and Agri-Food Imports, 2004



Source: Statistics Canada and AAFC calculations.

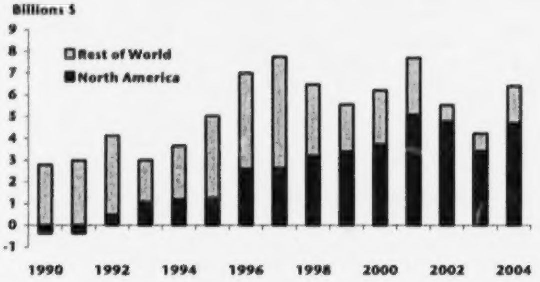
Agriculture and agri-food trade accounts for a significant part of the overall Canadian trade surplus

- **Agriculture and agri-food imports have been growing at a slower pace than exports resulting in a widening positive trade balance.** In 2004, the overall trade surplus in these products rose to $6.4 billion after declining for two years.

  While the trade balance with North America has been steadily increasing since the early 1990's, the trade balance with the rest of the world has fluctuated over time.

Chart A2.18

Agriculture and Agri-Food Trade Balance with North America and Rest of World, 1990-2004



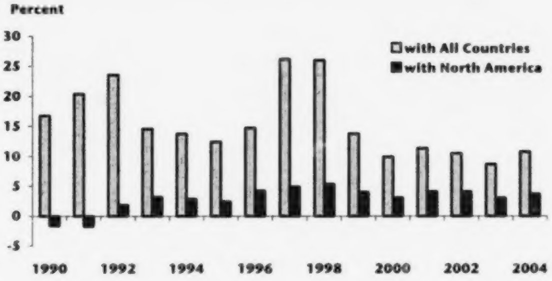
Source: Statistics Canada and AAFC calculations.

- **The agriculture and agri-food trade balance accounted for 10.7% of the total Canadian trade balance with all countries in 2004.** This trade balance share has fluctuated over time, reaching as high as 26% in 1997 and 1998.

  Agriculture and agri-food's trade balance share of the total Canadian trade balance with North America was 3.6% in 2004.

Chart A2.19

Agriculture and Agri-Food Trade Surplus' Share of the Total Canadian Trade Balance, 1990-2004

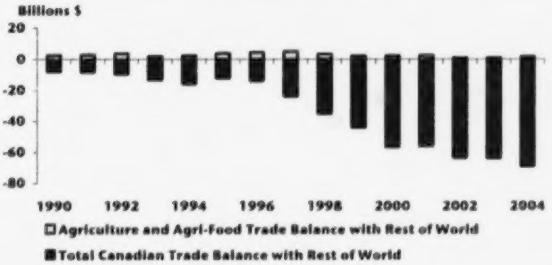


Source: Statistics Canada and AAFC calculations.

- Canada has had an overall trade deficit with the rest of the world and this has grown substantially since the mid 1990's. Agriculture and agri-food's trade surplus with the rest of the world partially offsets this total trade deficit position.

Chart A2.20

Agriculture and Agri-Food Trade Surplus' Offset of the Total Canadian Trade Deficit with Rest of World, 1990-2004



Source: Statistics Canada and AAFC calculations.

SECTION A3

Labour, Capital and Investment

Labour is diverse within the agriculture and agri-food system

- **The typical farmer is male, of an average age of 51.** However, the number of female farmers and farm managers are increasing. The percentage of farmers with post secondary credentials is also increasing.

  Farm employees tend to be in their late 30's and equally reflect both genders.

Chart A3.1

Labour Characteristics in Primary Agriculture by Occupation, 1995 and 2000

	Average Age		Gender (% Male)		Education (% with Post Secondary Credentials)	
	1995	2000	1995	2000	1995	2000
Farmers & farm managers	50	51	77	74	28	32
Farm supervisors & specialized livestock workers	39	38	69	63	31	35
General farm workers	36	36	65	65	20	20
Harvesting labourers	35	37	49	55	13	13
Nursery & greenhouse operators & managers	43	44	52	56	46	47
Nursery & greenhouse workers	35	35	55	44	26	23

Source: Statistics Canada.

Note: See glossary of occupations.

- The typical employee in FBT processing is in his/her late 30's or early 40's. Supervisors tend to be male, with less than half having post secondary credentials, while labourers tend to reflect both genders equally and have less education.

Chart A3.2

Labour Characteristics in FBT Processing by Occupation, 1995 and 2000

	Average Age		Gender (% Male)		Education (% with Post Secondary Credentials)	
	1995	2000	1995	2000	1995	2000
Supervisors, FBT processing	40	40	78	75	38	40
Machine operators & related workers in FBT processing	38	39	65	65	21	24
Labourers in FBT processing	36	37	52	48	18	19

Source: Statistics Canada.

Note: See glossary of occupations.

While labour in the agriculture and agri-food sector tends to be dominated by males, labour in foodservice tends to be more female dominated

- **The food retail/wholesale industry tends to be more male dominated than in other non-food retail/wholesale industries.**

While food retail/wholesale labour has tended to reflect more male positions, the relative number of female labourers has increased. The relative number of females to males in other non-food industries has remained relatively constant.

Chart A3.3

Labour Characteristics in Food Retail/Wholesale by Occupation, 1995 and 2000

	Average Age		Gender (% Male)		Education (% with Post Secondary Credentials)	
	1995	2000	1995	2000	1995	2000
Grain elevator operators	38	41	98	92	28	29
Butchers & bakers	36	37	61	57	31	29
Retail trade supervisors*	37	36	46	45	37	34
Cashiers*	29	29	14	14	24	22

Source: Statistics Canada.

Note: See glossary of occupations.
*Reported statistics also reflect values for workers in non-food related activities.

In the foodservice industry lower level positions, such as food counter attendants and kitchen helpers are dominated by women.

Chart A3.4

Labour Characteristics in Foodservice by Occupation, 1995 and 2000

	Average Age		Gender (% Male)		Education (% with Post Secondary Credentials)	
	1995	2000	1995	2000	1995	2000
Restaurant & foodservice managers*	40	41	57	53	41	42
Food service supervisors	34	31	37	34	40	31
Chefs & cooks	35	35	55	57	29	30
Occupations in food & beverage service	30	29	23	23	28	27
Food counter attendants, kitchen helpers & related occupations	26	28	28	35	16	15

Source: Statistics Canada.

Note: See glossary of occupations.
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Source: Statistics Canada.

Note: See glossary of occupations.

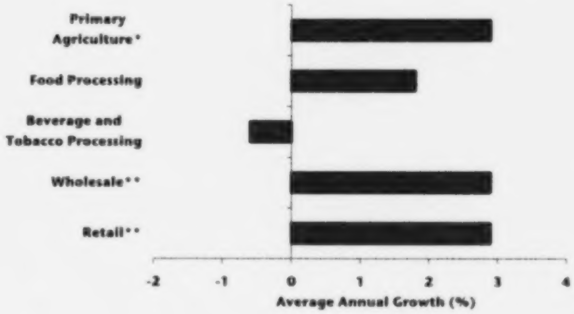
*Reported statistics also reflect values for accommodation service managers.

Primary agriculture maintains a moderate productivity growth despite a slowdown in Canadian economic growth

- **The annual average multifactor productivity (MFP) growth in primary agriculture and in food processing have been 3% and 2%, respectively, between 1997 and 2003.**

Chart A3.5

Multifactor Productivity Growth in the Agriculture and Agri-Food System 1997-2003



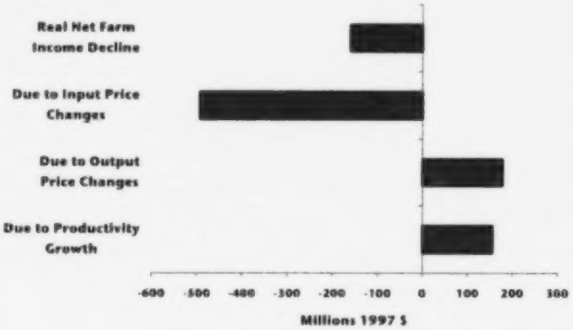
Source: Statistics Canada.

Note: *Also includes forestry, fishing and hunting.
**Encompasses both food and non-food retail/wholesale activities.

- **While there has been positive income growth in many years over the past two decades, overall real net farm income in Canada fell.** The changes in net farm income can be attributed to changes in output prices, input prices and total factor productivity. Between 1984 and 2003, $493 million of the annual average decline in net farm income was due to increased farm expenses. The annual average increase in net farm income due to growth in total factor productivity and in composite output price averaged $156 million and $178 million, respectively. Although the contribution of the growth in total factor productivity and composite output price were positive, they were insufficient to offset the impact of increased input costs, resulting in a decline in real net farm income of $159 million per annum.

Chart A3.6

Canadian Net Farm Income Growth Decomposition 1984-2003



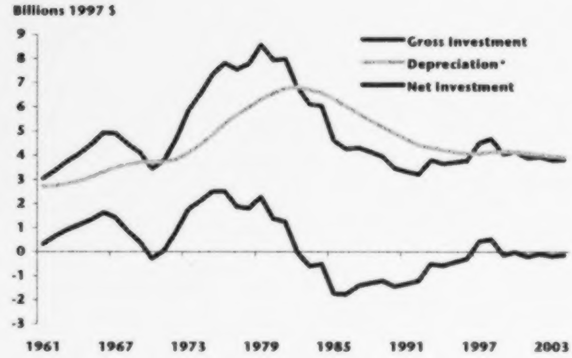
Source: AAFC calculations.

Capital stock in primary agriculture has declined since the 1980's

- **Primary agriculture began a period of rationalization in the late 1980's after the rapid investment growth of the 1970's.**

The investment decline reflected several different factors, the most important of which was a signficant drop in commodity prices combined with higher interest rates and the restructuring that was occurring in agriculture production. Farms were consolidating, allowing more efficient use of machinery and equipment, as evidenced by large productivity gains.

Chart A3.7
Investment in Primary Agriculture, 1961-2004



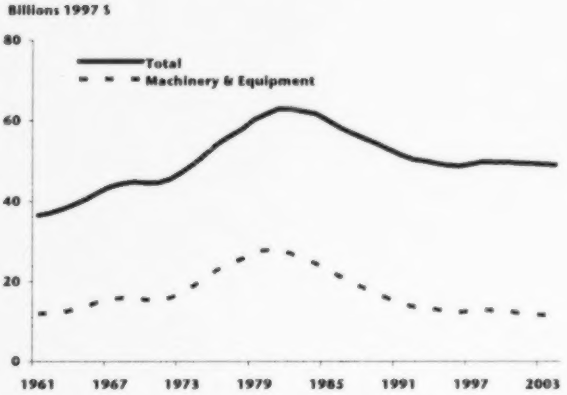
Source: Statistics Canada.

Note: Geometric (infinite) depreciation.

- **Most of the decline in capital stock in primary agriculture has been with respect to farm machinery and equipment.** Since the mid-1990's, total capital stock has stabilized at around $50 billion (1997$), and machinery and equipment at around $12 billion (1997$).

Capital stock in U.S. primary agriculture has undergone a similar investment cycle to that of Canada.

Chart A3.8
Capital Stock in Primary Agriculture, 1961-2004



Source: Statistics Canada.

Foreign Direct Investment (FDI) is increasing

- **FDI is a critical source of capital for the growth of the agriculture and agri-food system.** FDI benefits both the investing firm and the host country. FDI provides the investing firm with market access and allows it to achieve economies of scale. The host country benefits through technology transfer and increased competition which can lower food costs for consumers.

  For example, as international food processors and retailers invest in Canada, they are securing access to the North American market and bringing their own procurement, distribution and merchandizing systems.

Chart A3.9

Top Global Food Retailers with Operations in Canada, 2004

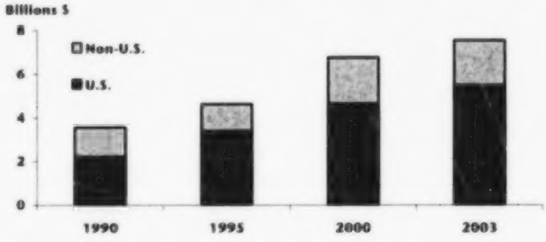
World Rank	Company	Global Sales (Billions US $)
1	Wal-Mart Stores, U.S.	244.5
7	Costco, U.S.	38.0
11	Safeway, U.S.	32.4
13	Ito-Yokado, Japan	27.2

Source: Supermarket News, SN Global Top 25.

- **Accumulated FDI from U.S. sources in Canadian food processing has more than doubled since 1990 and now accounts for roughly three-quarters of total FDI in food processing.** This underestimates the true importance of FDI from U.S. sources. Official FDI statistics do not take into account any reinvestments in the Canadian-based plants from retained earnings.

Chart A3.10

Accumulated FDI in Canadian Food Processing by Country of Origin, 1990-2003



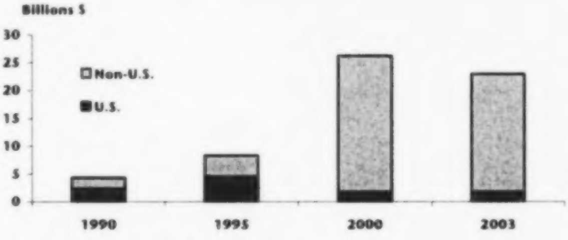
Source: Statistics Canada and AAFC calculations.

Note: SIC-C classification system.

- The huge increase in FDI from non-U.S. sources in beverage processing between 1995 and 2003 reflects in part the purchase of Seagrams by Vivendi SA and Labatts by Interbrew of Belgium.

Chart A3.11

Accumulated FDI in Canadian Beverage Processing by Country of Origin, 1990-2003



Source: Statistics Canada and AAFC calculations.

Note: SIC-C classification system.

Outward investment is contributing to the system's international focus

- **Canadian firms have also been expanding abroad, bringing their technology and management to other countries.** Often these investments are critical to expanding global market opportunities

  For example, McCain Foods has more than 55 production facilities on six continents.[4]

Chart A3.12

Locations of McCain Foods International Plant Facilities, 2004

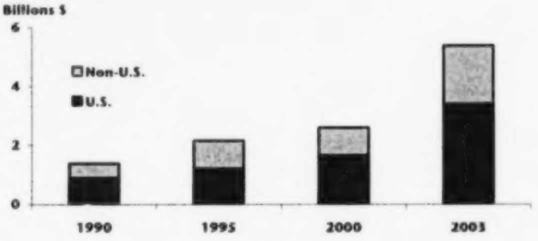
Company	Locations of International Plant Facilities
McCain Foods	Argentina
	Australia
	Belgium
	France
	Mexico
	Netherlands
	New Zealand
	Poland
	South Africa
	United Kingdom
	United States

- **More Canadian outward investment is flowing to the U.S. market.** Accumulated U.S. directed outward investment in food processing has increased by $2.5 billion since 1990.

  But Canadian food processing is also rapidly expanding beyond the North American market, with outward investment to the rest of world doubling in the last year.

Chart A3.13

Accumulated Outward Investment in Food Processing by Country of Destination, 1990-2003



Source: Statistics Canada and AAFC calculations.

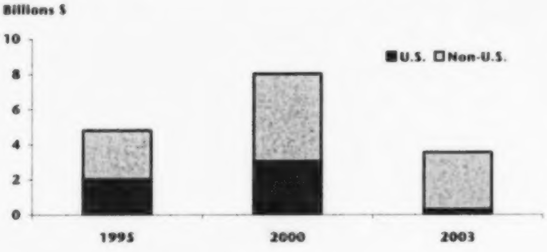
Note: SIC-C classification system.

- **Beverage processing has also been focussing beyond the North American market.**

  However, the merger between Molsons and Coors will lead to a drop in total accumulated outward investment in 2005.

Chart A3.14

Accumulated Outward Investment in Beverage Processing by Country of Destination, 1995-2003



Source: Statistics Canada and AAFC calculations.

Note: SIC-C classification system.

Foreign Direct Investment (FDI) is increasing

- **FDI is a critical source of capital for the growth of the agriculture and agri-food system.** FDI benefits both the investing firm and the host country. FDI provides the investing firm with market access and allows it to achieve economies of scale. The host country benefits through technology transfer and increased competition which can lower food costs for consumers.

  For example, as international food processors and retailers invest in Canada, they are securing access to the North American market and bringing their own procurement, distribution and merchandizing systems.

Chart A3.9

Top Global Food Retailers with Operations in Canada, 2004

World Rank	Company	Global Sales (Billions US $)
1	Wal-Mart Stores, U.S.	244.5
7	Costco, U.S.	38.0
11	Safeway, U.S.	32.4
13	Ito-Yokado, Japan	27.2

Source: Supermarket News, SN Global Top 25.

- **Accumulated FDI from U.S. sources in Canadian food processing has more than doubled since 1990 and now accounts for roughly three-quarters of total FDI in food processing.** This underestimates the true importance of FDI from U.S. sources. Official FDI statistics do not take into account any reinvestments in the Canadian-based plants from retained earnings.

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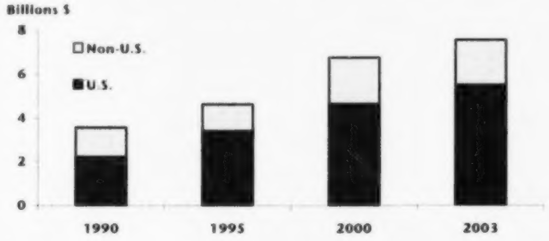

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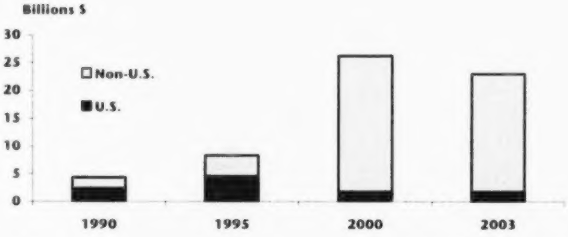

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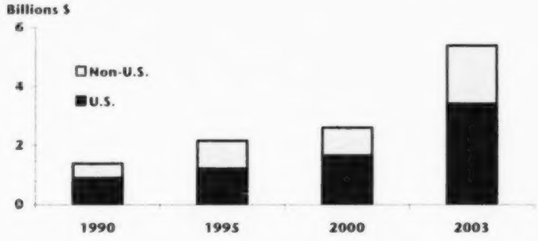

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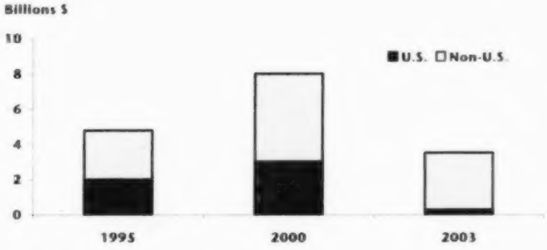

Source: Statistics Canada and AAFC calculations.

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SECTION A4

Innovation

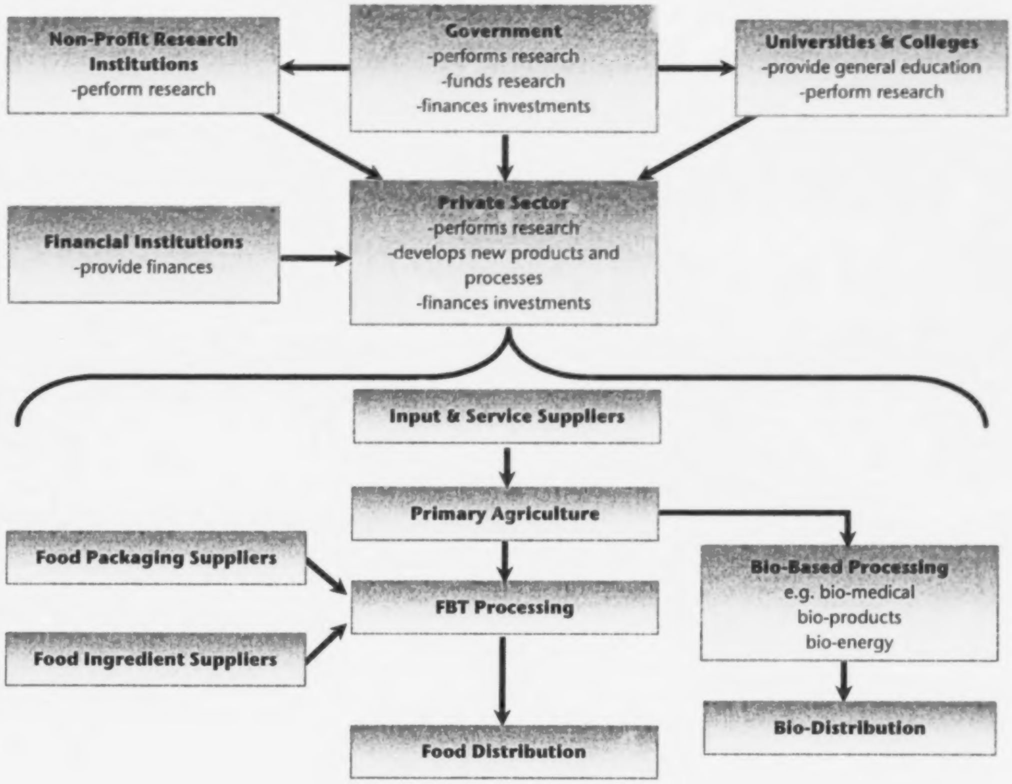
Innovation has helped to make the agriculture and agri-food system highly productive

- **Innovation is a key competitive strategy of the agriculture and agriculture and agri-food sector.** Innovation involves the introduction of something new that creates value. It can be a new product, a new process, or even a new way of organizing, financing or managing a business.

  The agriculture and agri-food innovation system extends beyond the traditional supply chain, encompassing other industry players, such as food packaging and ingredient suppliers and bio-based industries.

  Financial institutions, angel investors, venture capitalists, universities and colleges and the federal and provincial governments also play key roles in the innovation system.

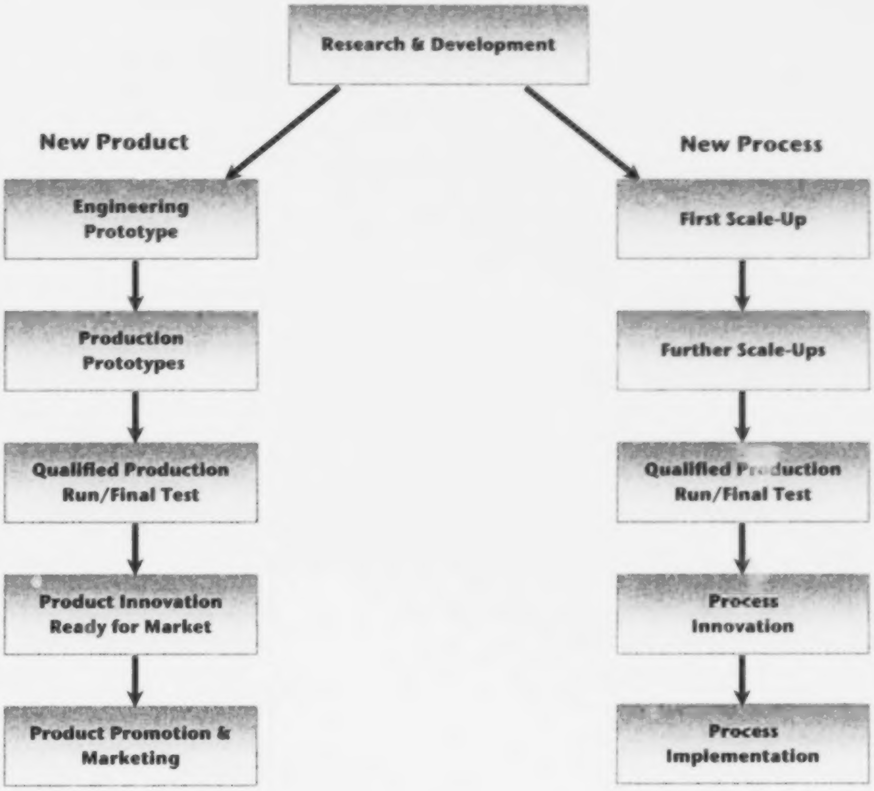
Chart A4.1
The Agriculture and Agri-Food Innovation System


Non-Profit Research Institutions
-perform research
Government
-performs research
-funds research
-finances investments
Universities & Colleges
-provide general education
-perform research
Financial Institutions
-provide finances
Private Sector
-performs research
-develops new products and processes
-finances investments
Input & Service Suppliers
Primary Agriculture
Food Packaging Suppliers
FBT Processing
Food Ingredient Suppliers
Bio-Based Processing
e.g. bio-medical
bio-products
bio-energy
Bio-Distribution
Food Distribution

Innovation involves much more than just Research and Development (R&D)

- **R&D is only the beginning of a complicated, and often high risk, innovation process** that takes the results from the laboratory, creates products/technology mock-ups and runs them through production tests.

Chart A4.2
Steps in Agriculture and Agri-Food Innovation


Research & Development
New Product
New Process
Engineering Prototype
First Scale-Up
Production Prototypes
Further Scale-Ups
Qualified Production Run/Final Test
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Product Innovation Ready for Market
Process Innovation
Product Promotion & Marketing
Process Implementation

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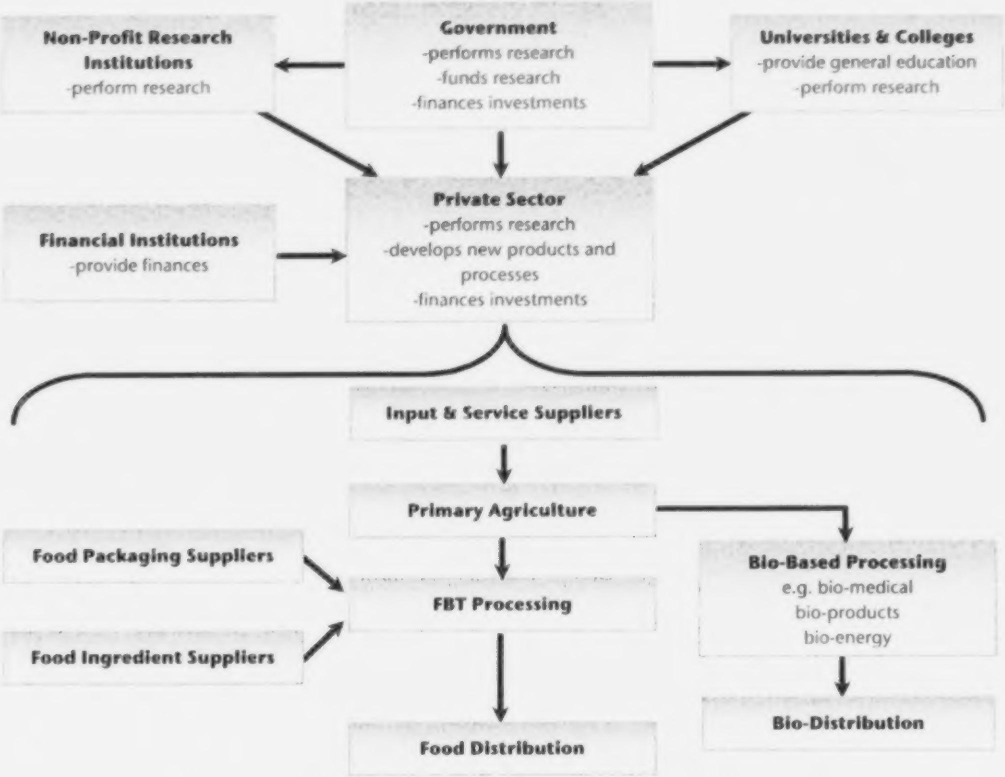

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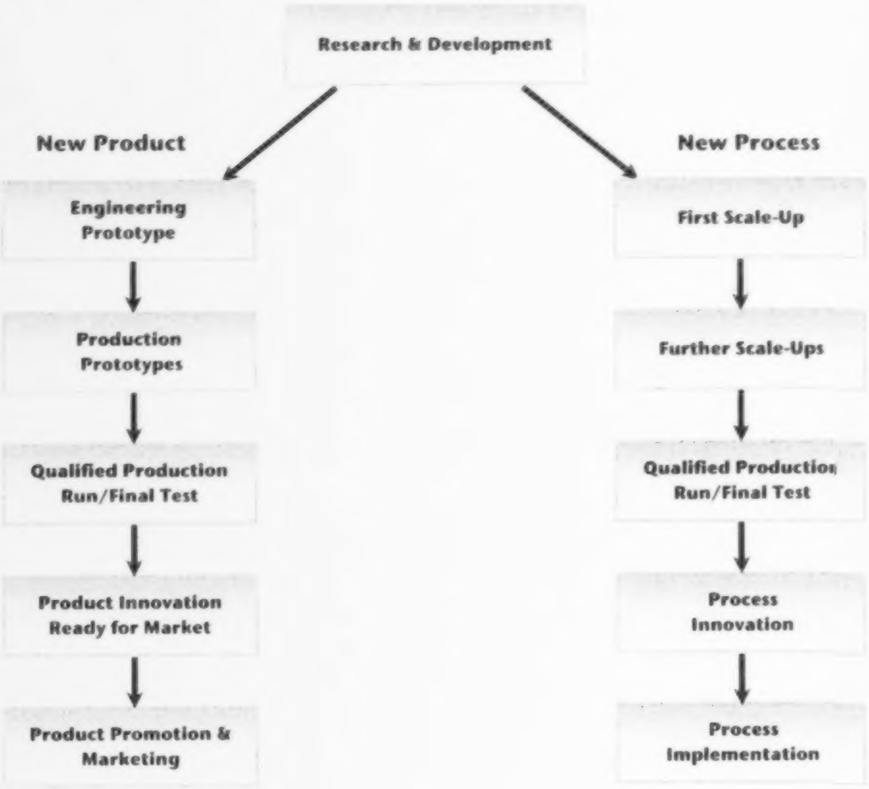
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Production Prototypes
Qualified Production Run/Final Test
Product Innovation Ready for Market
Product Promotion & Marketing
First Scale-Up
Further Scale-Ups
Qualified Production Run/Final Test
Process Innovation
Process Implementation

R&D expenditures are increasing but remain lower than for general manufacturing

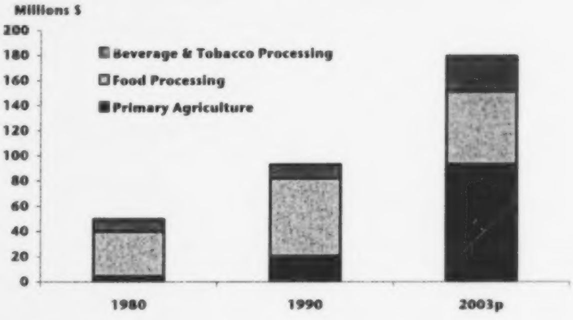
- **R&D expenditures by the agriculture and agri-food sector have been increasing over time.**

The R&D expenditures in primary agriculture have increased from $4.2 million to $93.0 million between 1980 and 2003.

The growth in R&D expenditures in food processing has been relatively low and increased only 62% over the same period.

Chart A4.3

Private Industry's R&D Expenditures in the Agri-Food Sector, 1980, 1990 and 2003



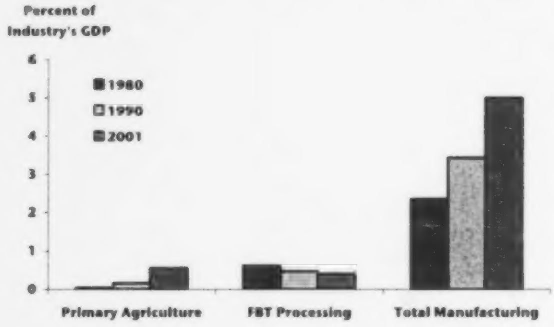
Source: Statistics Canada.

Note: 1) 2003 figures are preliminary.
2) This includes all R&D expenditures made by private industry regardless of whether the sources of funds were self-financed, government grants/contracts or from other companies.

- **The intensity of R&D expenditures in the agriculture and agri-food sector is much lower than for total manufacturing.**

Chart A4.4

Private Industry's R&D Expenditures as a Share of GDP, 1980, 1990 and 2001



Source: Statistics Canada.

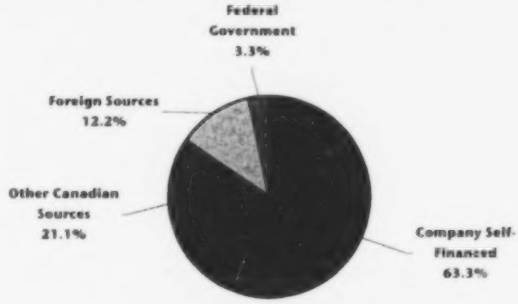
Note: This includes all R&D expenditures made by private industry regardless of whether the sources of funds were self-financed, government grants/contracts or from other companies.

Governments are a large contributor to innovation expenditures in private firms

- **The federal and provincial governments give R&D grants and contributions to private industry,** as well as carrying out R&D themselves and helping to fund R&D in universities and non-profit research institutions. Section C contains further discussion regarding government R&D funding.

Chart A4.5

Sources of Funds for Private Industry's R&D Expenditures in Primary Agriculture, 2002



Source: Statistics Canada.

Note: 1) This data also incorporates the forestry, fishing and hunting sectors.
2) Other Canadian sources includes funding from other companies and provincial governments.

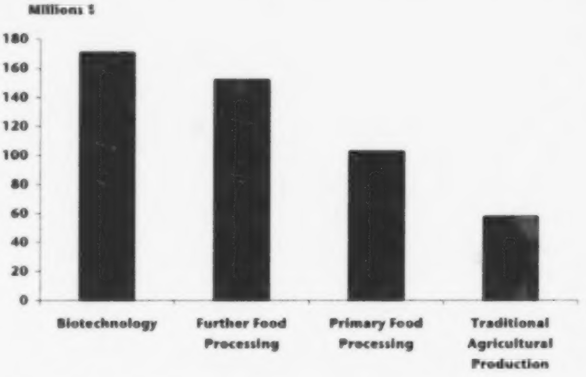
- **Venture capital funds specializing in the agriculture and agri-food sector tend to be largely government-sponsored, rather than private industry-sponsored.** A large part of government funding focuses on fostering economic development[5].

Since 1996, the agriculture and agri-food sector has received almost a half a billion dollars in venture capital investments, $40 million alone in the first three-quarters of 2003.

The majority of venture capital funding is focussed on biotechnology. This includes the development of biopesticides, genetically modified organisms (GMOs), nutraceuticals and human and animal pharmaceuticals.

Chart A4.6

Venture Capital Investments in Agricultural-Related Enterprises by Sector, January 1996 - September 2003



Source: MacDonald and Associates, 2002.

SECTION B

The Agriculture and Agri-Food System's Components

Section B1

Consumers

Nutrition is important to consumers

- **Consumers in Canada and other countries take a number of factors into consideration when making their food choices including the food's nutritional value, freshness, safety, taste and price.**

Compared to other countries, GlobeScan Inc. found that more Canadians tend to rate nutrition as the most important factor and rate price and safety as less important when choosing food.[6]

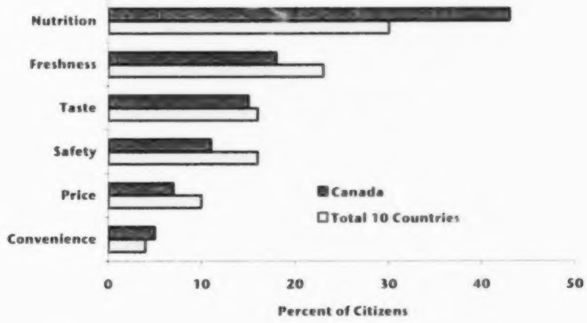


Chart B1.1
Most Important Factor in Consumers' Food Choice, 2003

Source: GlobeScan Inc., "Food Issues Monitor" 2003.

Note: The 10 countries include Australia, Brazil, Canada, China, France, Germany, Italy, Mexico, UK, and the U.S.

- **Most Canadians have a high degree of trust in Canada's food regulatory system and are confident that it will protect them from foodborne illnesses[7].**

Fewer Canadians tend to be concerned about food safety issues than do citizens in other countries. However, a fairly large percentage of Canadians (66%) are still concerned about tampering and poisoning, pollution and bacterial contamination[8].

Chart B1.2
Consumers' Food Safety Related Concerns, 2003

Percent of Citizens Who are Very Concerned:	Total 10 Countries	Canada
Tampering/Poisoning	70%	66%
Pollution	61%	56%
Bacterial Contamination	58%	54%
Disease from Animal	58%	54%
Chemical Pesticides	56%	53%
Hormones	54%	49%
Antibiotics	44%	38%
GMOs	42%	38%

Source: GlobeScan Inc., "Food Issues Monitor" 2003.

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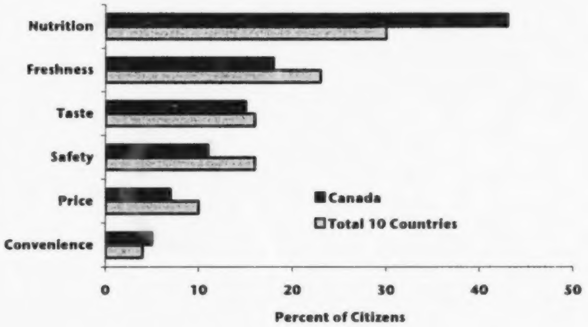

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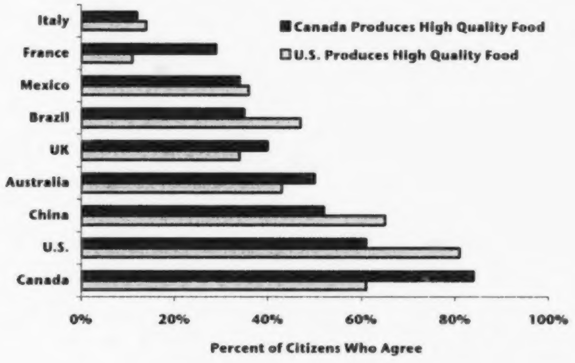
Note: The 10 countries include Australia, Brazil, Canada, China, France, Germany, Italy, Mexico, UK, and the U.S.

Canadian food production has a good reputation among international consumers, especially with respect to being environmentally responsible

- **In general, international consumers' perception of Canadian-produced food compares favourably to that of U.S.-produced food.**

Based on their international survey, GlobeScan found that, on average, a higher share of citizens in Australia, the UK and France rate the quality of Canadian produced food to be higher than U.S.-produced food. The same share of citizens in Italy and Mexico rate both countries' food as high quality.

Chart B1.3
How Other Countries Rate Canada and the U.S. with Respect to Producing High Quality Food, 2003

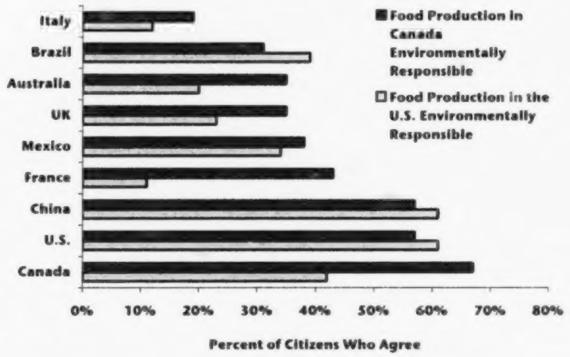


Source: GlobeScan Inc., "Food Issues Monitor" 2003.

- **Consumers around the world also give Canadian food very good ratings with respect to using environmentally responsible production methods.**

For most countries surveyed, other than China and Brazil more citizens rated food production in Canada to be environmentally responsible compared to the U.S.

Chart B1.4
How Other Countries Rate Canada and the U.S. with Respect to Environmentally Responsible Production, 2003



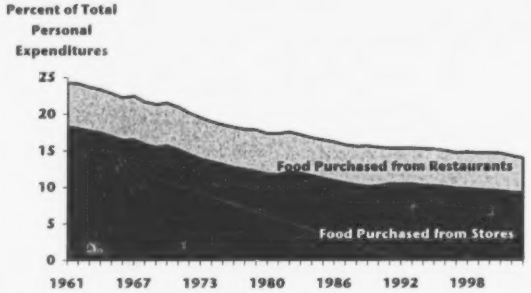
Source: GlobeScan Inc., "Food Issues Monitor" 2003.

For the average Canadian, food is increasingly affordable

- **The personal expenditure share of food purchases has been declining for the past 40 years.**

The trend has been the result of the decline in the share of food purchased from stores, while food purchased from restaurants maintained its share in personal expenditures.

Chart B1.5
Share of Canadian Personal Expenditures on Food, 1961-2003

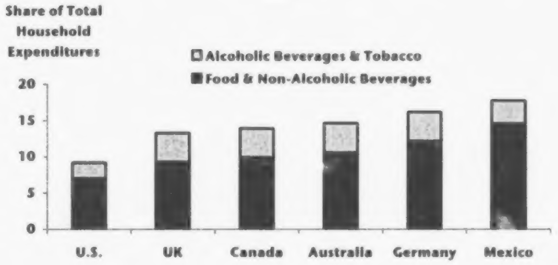


Source: Statistics Canada and AAFC calculations.

- **In 2002 the household expenditure share of food and non-alcoholic beverages in Canada was just under 10% with alcoholic beverages and tobacco accounting for another 4%.**

Among the selected OECD countries, Canada has the third lowest total household expenditure share for food, beverages and tobacco, ranking behind the U.S. at 9% and the UK at 13%.

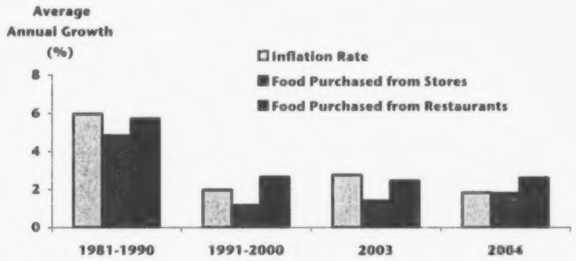
Chart B1.6
The Household Expenditure Share of Food, Beverage and Tobacco in Selected OECD Countries, 2002



Source: OECD.

- **Over the last 25 years, the rate of retail food price increases have in general been lower than inflation, while foodservice price increases have matched and sometimes even exceeded inflation.**

Chart B1.7
Consumer Price Indices for Food and All Goods and Services, 1981-2004



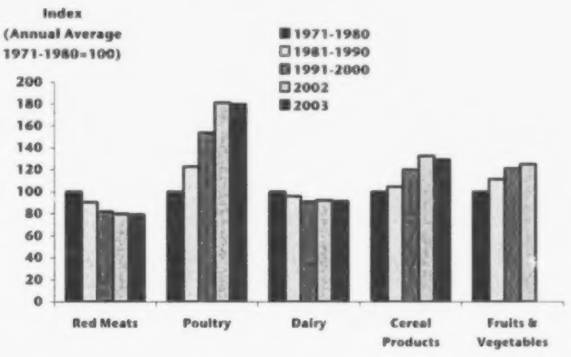
Source: Statistics Canada and AAFC calculations.

The average Canadian diet is changing over time

- **Relative to the 1970's people are eating less red meats, but more poultry, cereal products and fruit & vegetables.**

Although per capita red meat consumption has been steadily declining, per capita beef consumption in 2003 rose by 5% as people responded to lower beef prices and rallied around the cause of Canadian beef farmers devastated by the BSE crisis.

Chart B1.8
Per Capita Food Disappearance by Major Food Group, 1971-2003



Source: Statistics Canada and AAFC calculations.

Note: 2003 data for fruits & vegetables disappearance is unavailable.

- **The average Canadian consumes more wheat flour, fluid milk and fresh fruits and vegetables than the average American, but consumes significantly less meat and meat substitutes, such as eggs and cheese.**

For example, while the average American consumes around 100 kg of beef, pork and poultry meat and 251 eggs every year, the average Canadian consumes 81 kg of beef, pork and poultry meat and 190 eggs.

Canadians drink more coffee and tea than Americans, but less soft drinks.

Chart B1.9
Comparison of Per Capita Food Disapppearance in Canada and the U.S. by Commodity, 2001

	Canada	U.S.
Beef (kg)	22	30
Pork (kg)	22	23
Chicken (kg)	32	40
Turkey (kg)	4	8
Eggs (number)	190	251
Fluid Milk (litre)	87	83
Cheese (kg)	12	14
Fresh Fruits (kg)	61	54
Fresh Vegetables (kg)	142	120
Wheat Flour (kg)	72	64
Oil & Fats (kg)	31	32
Soft Drinks (litre)	114	185
Coffee (litre)	102	92
Tea (litre)	73	31

Source: Statistics Canada and USDA, Economic Research Service.

Note: Oil & fats data for the U.S. are for the year 2000.

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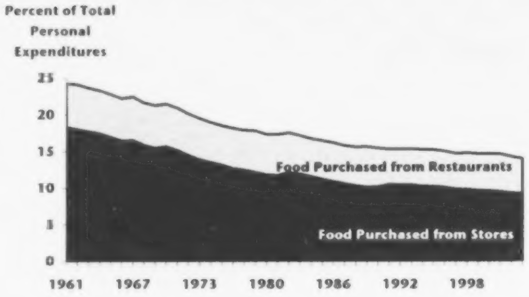

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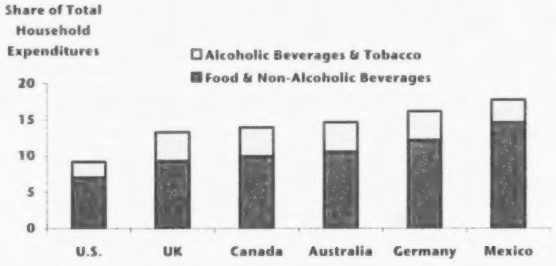

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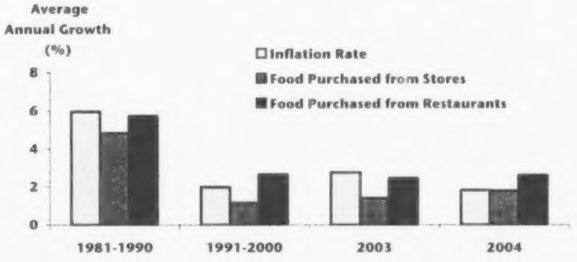

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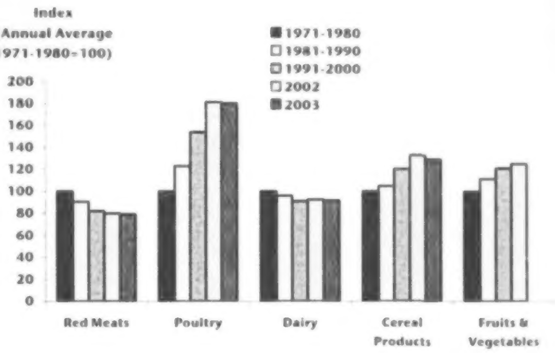

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Note: 2003 data for fruits & vegetables disappearance is unavailable.

- **The average Canadian consumes more wheat flour, fluid milk and fresh fruits and vegetables than the average American, but consumes significantly less meat and meat substitutes, such as eggs and cheese.**

For example, while the average American consumes around 100 kg of beef, pork and poultry meat and 251 eggs every year, the average Canadian consumes 81 kg of beef, pork and poultry meat and 190 eggs.

Canadians drink more coffee and tea than Americans, but less soft drinks.

Chart B1.9
Comparison of Per Capita Food Disapppearance in Canada and the U.S. by Commodity, 2001

	Canada	U.S.
Beef (kg)	22	30
Pork (kg)	22	23
Chicken (kg)	32	40
Turkey (kg)	4	8
Eggs (number)	190	251
Fluid Milk (litre)	87	83
Cheese (kg)	12	14
Fresh Fruits (kg)	61	54
Fresh Vegetables (kg)	142	120
Wheat Flour (kg)	72	64
Oil & Fats (kg)	31	32
Soft Drinks (litre)	114	185
Coffee (litre)	102	92
Tea (litre)	73	31

Source: Statistics Canada and USDA, Economic Research Service.

Note: Oil & fats data for the U.S. are for the year 2000.

Section B2

Food Distribution

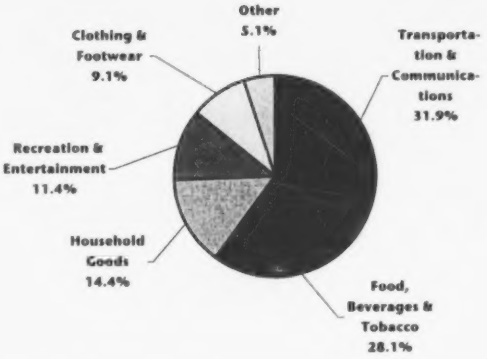
(Retail/Wholesale and Foodservice)

Food distribution is a major part of Canada's consumer goods and services sector

- **In 2003 Canadians spent close to $127 billion (or 18% of their total personal expenditures) on food, beverage and tobacco products purchased from stores ($92 billion) and through foodservice ($35 billion).**

Food, beverage and tobacco (FBT) expenditures represent the second largest consumer good expenditure category.

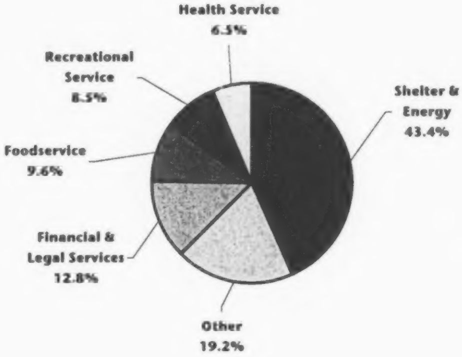
Chart B2.1
Personal Expenditure on Goods, 2003



Source: Statistics Canada.

- **Foodservice is the the third largest consumer service expenditure category.**

Chart B2.2
Personal Expenditure on Services, 2003



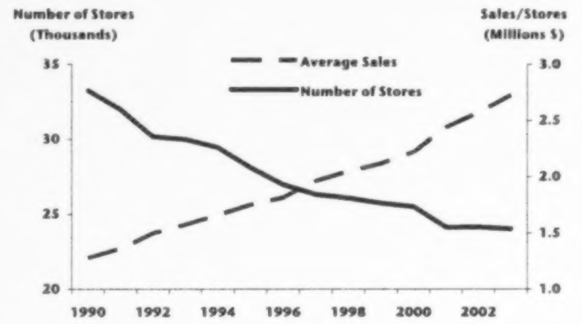
Source: Statistics Canada.

Food retailing is becoming more international, consolidated with increasingly larger operations

- **Significant store rationalization has occurred during the past decade,** with a move to larger operations.

Although the total number of food stores is declining, chain stores are increasing their number of branch and franchise stores in Canada. In 2004, Loblaws had around 1,030 branch/franchise stores, and Sobeys around 1,310 stores.

Chart B2.3
Number of Canadian Food Stores and Average Sales,1990-2003

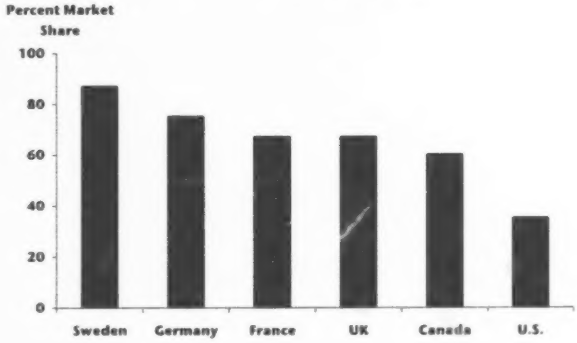


Source: Canadian Grocer, Statistics Canada and AAFC calculations.
Note: 2003 figures are estimates.

- **The five largest food retailers in Canada account for about 60% of national grocery sales, up from 50% a decade ago, while the share of independents has gone down from 47% to 39% over the same period.**

Some European countries have higher levels of retail food store concentration than Canada, while the U.S. overall, has a lower level. However, on a U.S. regional basis, food retail concentration is often high.

Chart B2.4
Market Share of Top 5 Food Retailers, Selected Countries, 1997-1999



Source: AAFC calculations based on Dobson Consulting, (1999) and USDA sources.

Canadian food retailers rank among North America's top food retailers

- Loblaws, Sobeys and Metro rank by sales as #10, #18 and #30, respectively, in Supermarket News' (SN) "North American Top 75 Food Retailer" list.

  Loblaws, Sobeys and Metro also rank among the top global general merchandise retailers, ranking #53, #78 and #153 respectively in Deloitte's "Top 200 Global Retailers" list.

Chart B2.5
The Ranking of Canadian Food Retailers, 2004

Food Retailer	Sales (Billions US$)	Major Banners	Rank in SN's Top 75 North American Food Retailers	Rank in Deloitte's Top 200 Global Retailers
Loblaws Companies Ltd	16.2	Loblaws; Atlantic Superstore; Fortinos; Provigo, Your Independent Grocer; Zehrs Markets	10	53
Sobeys	7.0	Sobeys; IGA, Price Choppers	18	78
Metro	3.5	Metro; Marché Richelieu; Super C; Loeb	30	153
Overwaitea Food Group	2.0	Overwaitea Foods, Save-On-Foods, Urban Fare	48	n/a

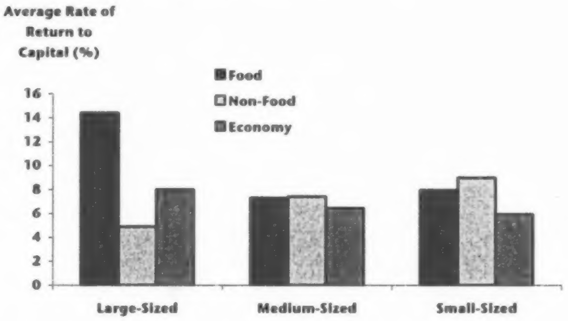
Source: Supermarket News (2004) and Deloitte (2004).

- **There are economies of scale associated with large food retailers.**

  Large-sized food retailers, on average, tend to earn nearly triple the rates of return as do large-sized non-food retailers.

  Medium-sized food retailers tend to earn rates of return on par with their non-food counterparts, while small-sized food retailers earn rates of return that are a little less than those of their non-food counterparts.

Chart B2.6
Average Rates of Return for Large, Medium and Small-Sized Retailers, 1990-1998



Source: Harper and Burroughs (2003), Smith and Trant (2003) and Harper and Smith (2001).

Note: Large-sized retailers are those with $100 million or more in sales, medium-sized are those with sales between $10 million and $99.9 million and small-sized are those with sales less than $10 million.

Lines between food retail and non-food retail, food wholesale and food processing are becoming blurred

- **Lines between food and non-food retailers are becoming blurred** as department stores, pharmacies and gas stations are increasingly selling food items while traditional food retailers/wholesalers have expanded their non-food selections.

Chart B2.7
Food Retail Channel Share, 2002

	%
Supermarkets (grocery stores)	80.1
General merchandise stores	9.7
Specialty food stores	7.3
Drug stores	1.4
Gas stations	1.0
Other	0.3

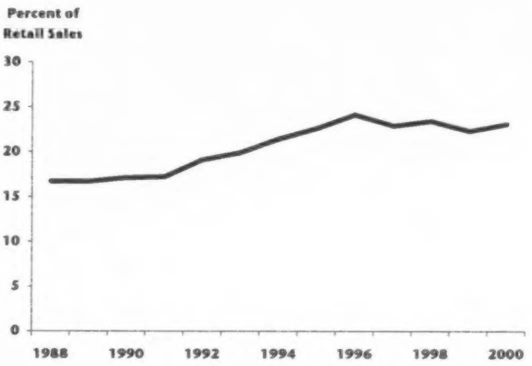
Source: Statistics Canada,Canadian Economic Observer, December 2003.

- **Lines between food retail and upstream industries are also becoming harder to distinguish.**

  Food retail and wholesale operations are largely integrated with large retailers owning their own wholesale operations.

  More and more food retailers are manufacturing their own private labels to better respond to consumers' cost sensitivities and/or specific quality demands and to offer increased product differentiation.

Chart B2.8
Private Label Penetration, 1988-2000



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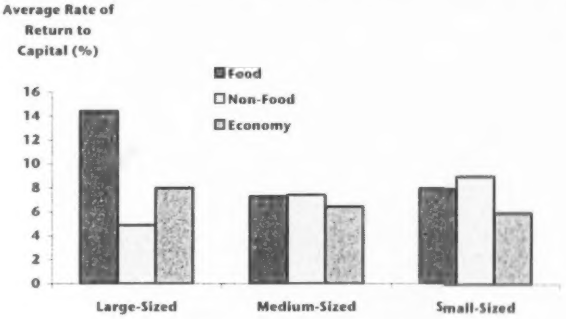

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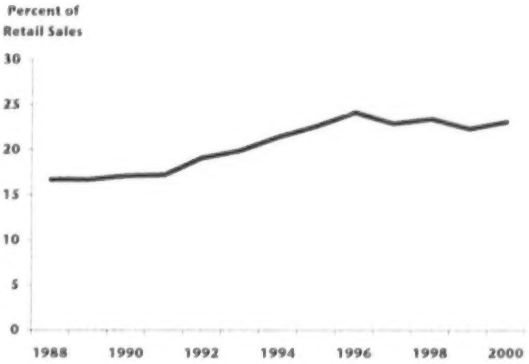


Source: Canadian Grocer Executive Report 2002 and the Globe and Mail 1998.

Most meals are still eaten at home, but foodservice is an increasing component of household expenditures

- **Almost 70% of all Canadian meals are prepared and eaten at home.** Commercial foodservice accounts for around 10% of all meals.

Chart B2.9

Where Canadians Eat Their Meals, 2003

	% of Meals
In home – from retail	67
At a restaurant	8
Skipped meals	8
Carried from home	7
All other away-from-home	7
In-home–from restaurants	2
In home - home meal replacement	1

Source: Canadian Restaurant and Foodservices Association.
(Sourced from Eating Patterns in Canada Report 2003, NPD Group Canada Inc.)

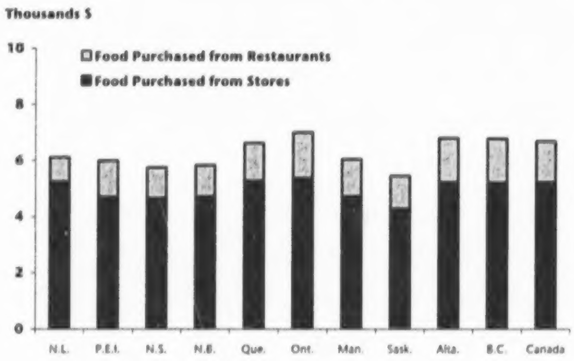
- **The average Canadian family visits a restaurant for a meal or snack approximately 500 times per year and spends about one-fifth of their total household food expenditures on these meals and snacks[9].**

Residents of Alberta, British Columbia and Ontario spend a larger share of their food expenditures on restaurant meals than the residents of other provinces.

Provincial sales tax does not explain these differences as there is no provincial sales tax on restaurant meals except in Alberta and Ontario where only restaurant meals under $4.00 are exempt.

Chart B2.10

Household Spending on Food by Province, 2002



Source: Statistics Canada and AAFC calculations.

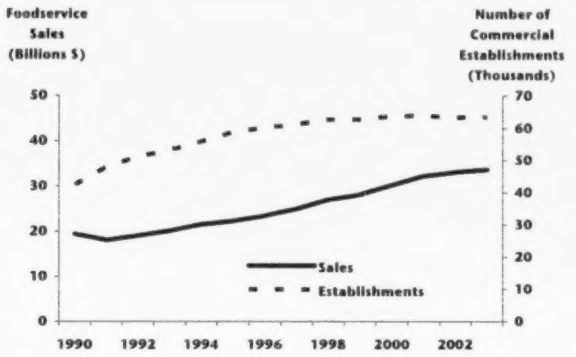
Note: Food purchased from stores includes board paid to private households.

Foodservice sales are growing over time

- **Commercial foodservice sales have increased by more than over 70% since 1990, while the number of establishments have been stabilized at mid-1990 levels.**

In 2003, there were around 63,500 commercial foodservice establishments in Canada, of which one-third were in Ontario.

Chart B2.11
Commercial Foodservice Sales and Number of Establishments, 1990-2003



Source: Canadian Restaurant and Foodservice Association and Statistics Canada.

- **When Canadians eat out, they tend to prefer more to less service.** Nearly half of sales in commerical foodservice is spent at full service restaurants.

Other and non-commercial foodservice sales account for around 22% of total foodservice sales.

Chart B2.12

Market Share by Foodservice Category, 2004

	%
Commercial Foodservice	**78**
Full service Restaurants	39
Limited-service Restaurants	28
Social and Contract Caterers	6
Pubs, Nightclubs	5
Other and Non-Commercial Foodservice	**22**
Accomodation Foodservice	10
Institutional Foodservice	6
Retail Foodservice	2
Other Foodservice	4

Source: Canadian Restaurant and Foodservices Association.

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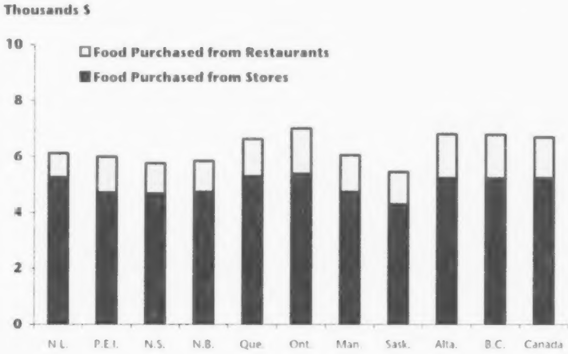

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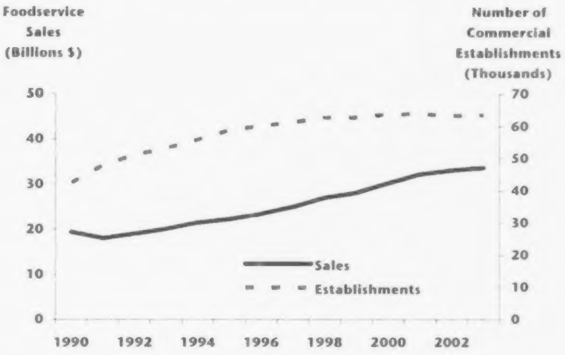

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Other Foodservice	4

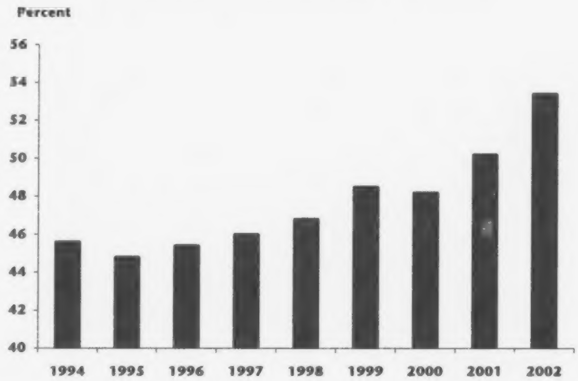
Source: Canadian Restaurant and Foodservices Association

Foodservice is becoming increasingly concentrated, but a large share is still operated by independent proprietors

- **Commercial foodservice remains quite fragmented with 63% of locations owned by independents rather than chains.** But concentration is increasing as chain restaurant companies continue to expand.

  In 2002, the top 50 foodservice companies accounted for 53% of commercial foodservice sales, up 7 percentage points from 1994.

Chart B2.13
Top 50 Foodservice Companies' Share of Commercial Foodservice Sales, 1994-2002



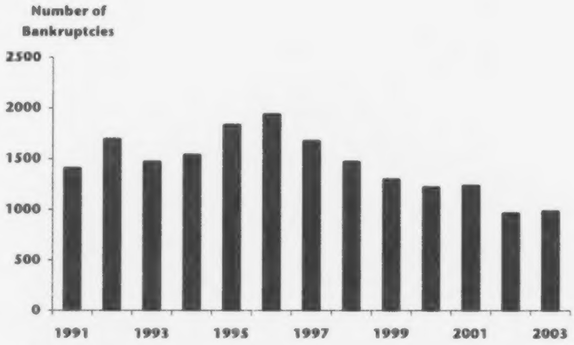
Source: Canadian Restaurant and Foodservices Association.

- **Commercial restaurant bankruptcies were up slightly in 2003 partly due to a slowdown in the economy.**

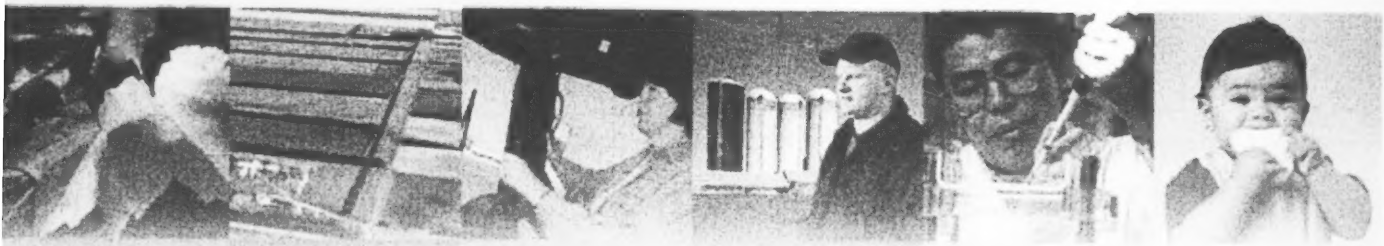
  The Canadian Restaurant and Foodservice Associations reports that the average profit margin for foodservice operators is 4.6%.

  Food accounts for 37.5% of total foodservice operators costs and labour for another 30%[10].

Chart B2.14
Commercial Restaurant Bankruptcies, 1991-2003



Source: Canadian Restaurant and Foodservice Association, InfoStats Quarterly.



SECTION B3

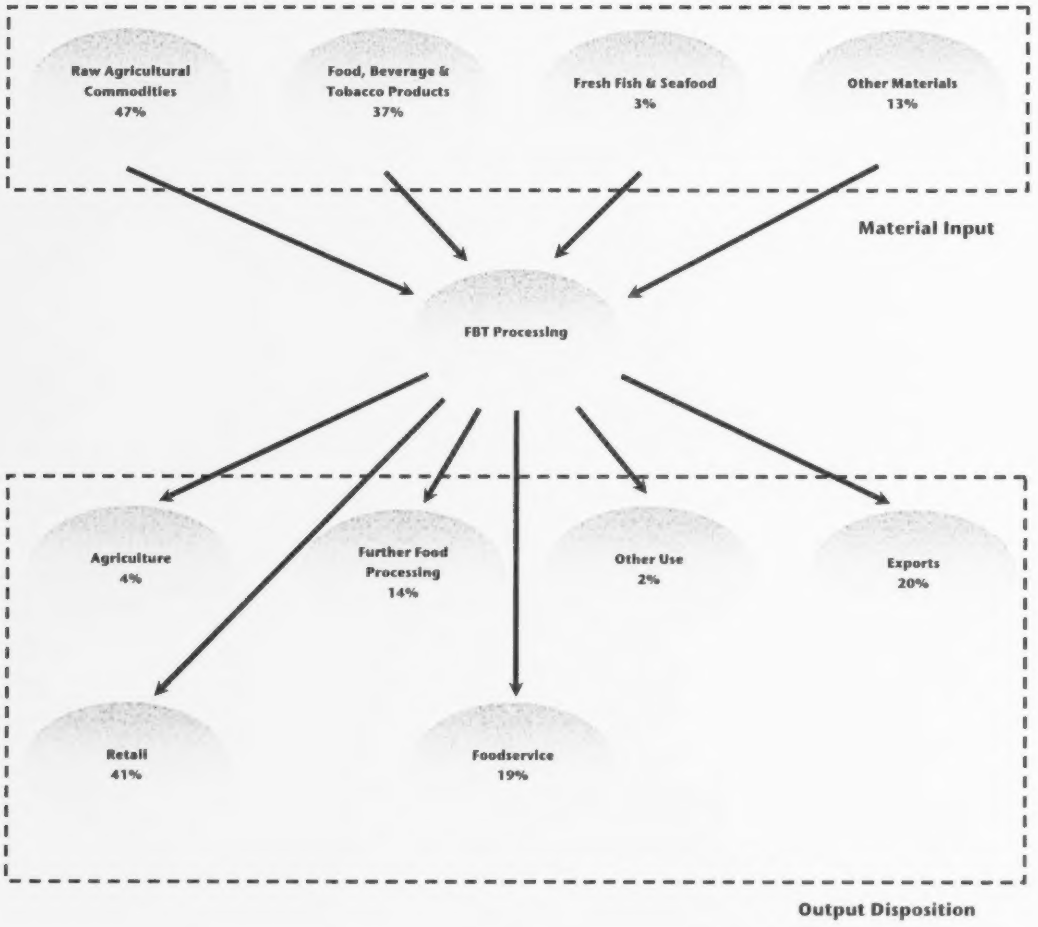
Food, Beverage and Tobacco (FBT) Processing

Food, beverage and tobacco (FBT) processing is a chain of industries

- **FBT processing is a chain of industries ranging from primary processors, such as flour mills and abattoirs, to further processors, such as bakeries and meat canneries.**

Raw agricultural commodities and fresh fish and seafood make up 50% (or $19 billion) of the total value of material input into FBT processing. Food, beverage and tobacco products that go into further processing, make up another 37% (or $14 billion). The remaining 13% of input value is largely packaging materials. Energy costs, chemical additives, and equipment are also included in the other materials cateogry.

Chart B3.1
Food Processing Input Composition and Output Disposition, 2001


Raw Agricultural Commodities 47%
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Fresh Fish & Seafood 3%
Other Materials 13%
Material Input
FBT Processing
Agriculture 4%
Further Food Processing 14%
Other Use 2%
Exports 20%
Retail 41%
Foodservice 19%
Output Disposition

Source: Statistics Canada and AAFC calculations.

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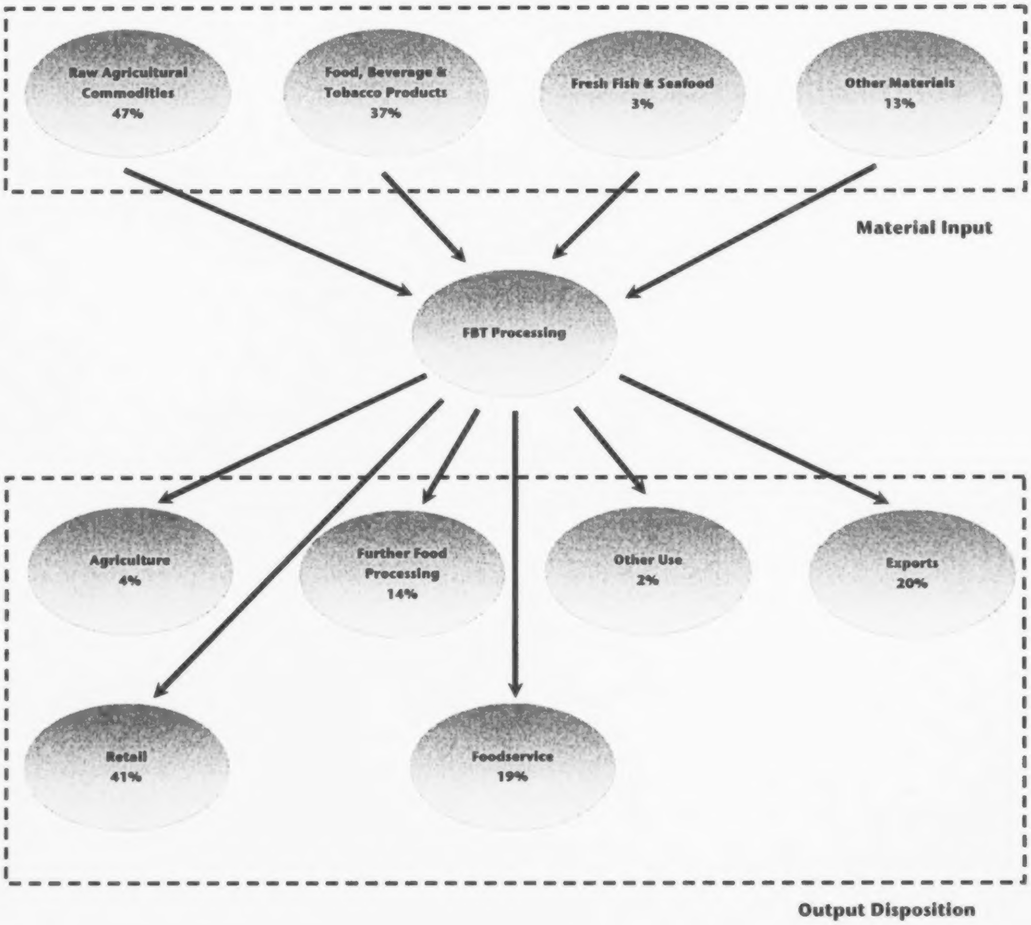
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Other Use 2%
Exports 20%
Retail 41%
Foodservice 19%
Output Disposition

Source: Statistics Canada and AAFC calculations.

It is an important part of the manufacturing sector

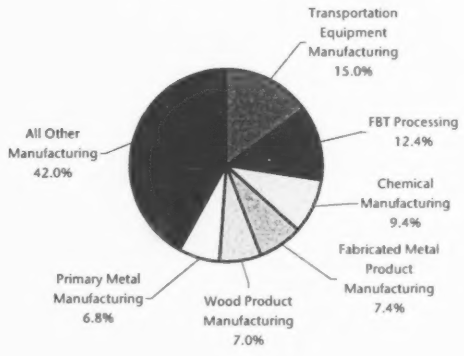
- **FBT processing is the second largest contributor to total manufacturing GDP in Canada, following transportation equipment manufacturing.**

In 2003, FBT processing's share of manufacturing GDP was 12% (food processing accounting for nearly 10% of this share).

FBT processing is the largest manufacturing industry in six provinces. It is the second largest in Ontario and Quebec and the third largest in British Columbia and New Brunswick.

Chart B3.2

Distribution of Total Manufacturing GDP by Sector, 2003

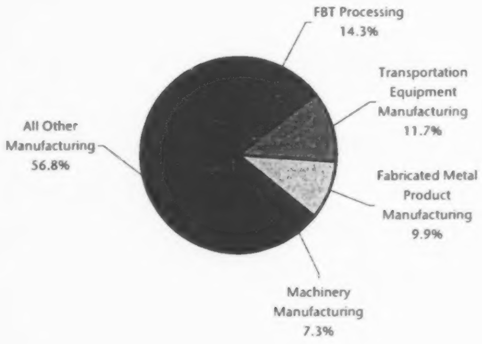


Source: Statistics Canada.

- **FBT processing is the largest manufacturing employer,** accounting for 14% of total manufacturing employees.

Chart B3.3

Distribution of Total Manufacturing Employment by Sector, 2003



Source: Statistics Canada.

Output continues to grow, but at a lower rate

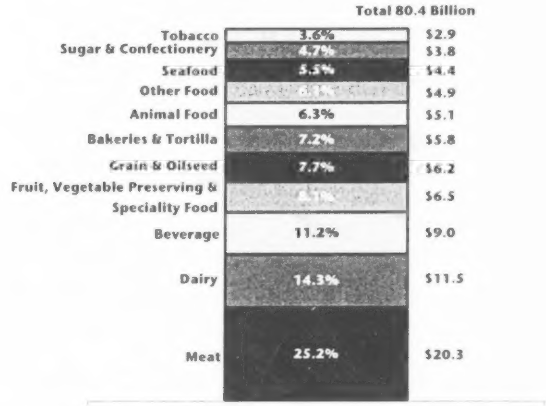
- **The total value of FBT processing shipments in 2004 was $80.4 billion, up by almost $5 billion from 2003.**

FBT processing shipments have increased by $33 billion since the early 1990's.

The largest FBT processing industry is meat products manufacturing, followed by dairy products manufacturing and beverage manufacturing.

Chart B3.4

Value of FBT Processing Shipments, 2004

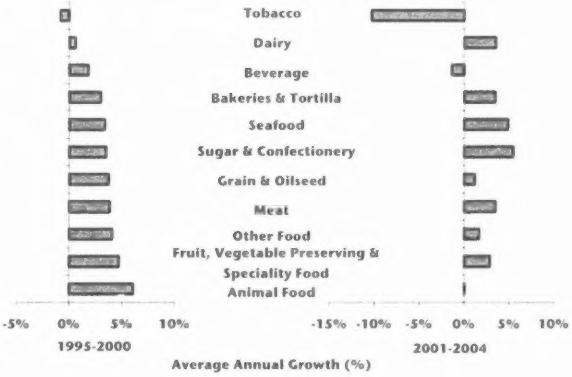


Source: Statistics Canada.

- **Most food processing industries have experienced a slowdown in average annual growth relative to the late 1990's.** The notable exceptions are sugar and confectionery, seafood, dairy and bakeries and tortilla manufacturing.

Chart B3.5

Growth in Shipment Value in Real Dollars by FBT Processing Industry, 1995-2004



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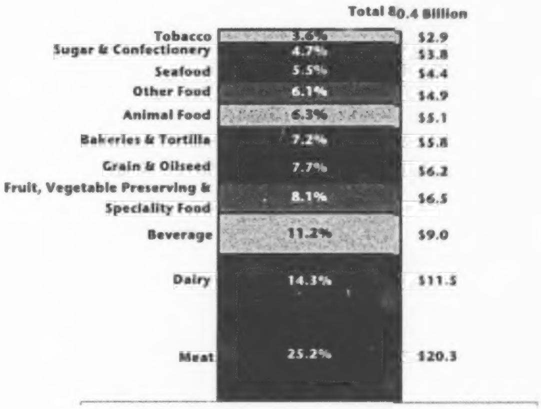

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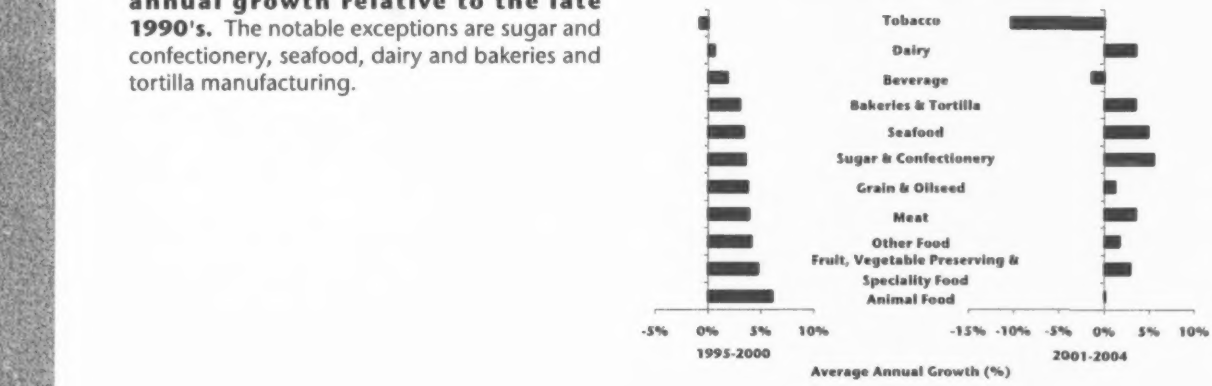


Source: Statistics Canada and AAFC calculations.

Large scale firms account for half of the output

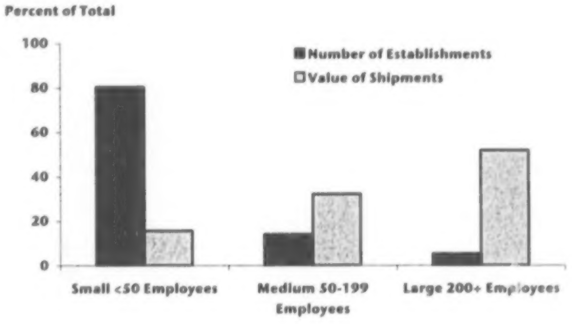
- **In 2002 there were 6,000 FBT processing establishments across Canada,** each producing at least $30,000 in sales.

  Large FBT processing establishments produce the bulk of output. In 2002, they comprised only 5% of the total number of establishments but accounted for 52% of the value of shipments.

  In contrast, small establishments comprised 80% of the total number of establishments but only accounted for 16% of the total value of shipments.

Chart B3.6

Distribution of FBT Processing Shipments and Number of Establishments by Employment Size, 2002

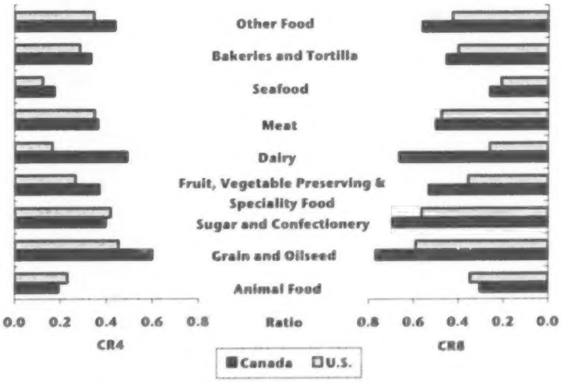


Source: Statistics Canada.

- **Compared to the United States, all Canadian food processing industries, except animal food, are more concentrated, as measured by both CR4 and CR8.**

Chart B3.7

Concentration Ratio in Food Processing Canada-1999 U.S.-1997



Source: Statistics Canada and U.S. Census Bureau.

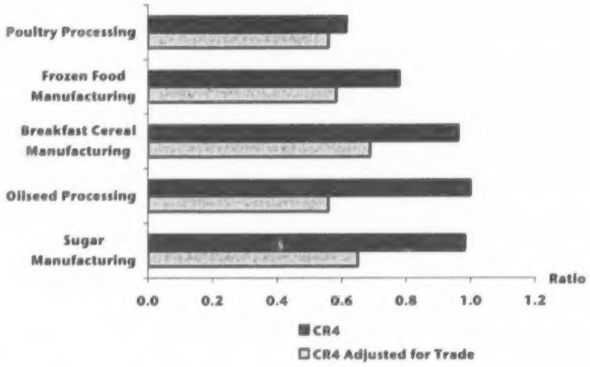
While Canadian food processing is fairly concentrated, once imports are taken into consideration, concentration ratios decline

- **Many of the food processing sub-sector industries have high concentration ratios (CR4), with the top four firms accounting for up to 80% of total industry sales.**

  Once these ratios are adjusted for trade, concentration ratios decline.

Chart B3.8

Concentration Ratios of Select Food Processing Industries, 2001

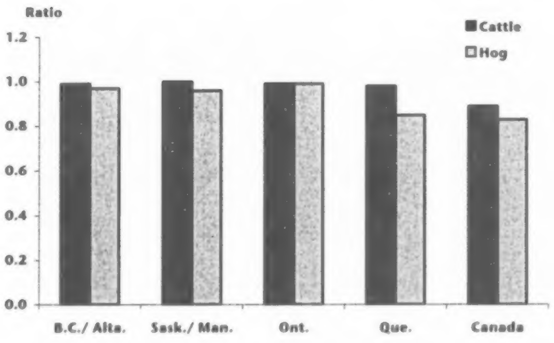


Source: Statistics Canada.

- **On a regional basis, the CR4s can be higher than the national ratios, as witnessed by the animal slaughtering industries in various provinces.**

Chart B3.9

Regional Concentration Ratios (CR4) for Animal Slaughtering, 2001



Source: Agriculture and Agri-Food Canada, Cattle Slaughter Statistics for Federal Abattoirs.

FBT processing is becoming more international in scope

- **Most of the large establishments are owned by firms that are international in their scale of operation.**

  Canadian companies rank among these global manufacturers.

Chart B3.10

Top Global Food Manufacturers, 2004

Rank	Company	Headquarters	Global Sales (Billions US$)
1	**Nestlé**	Switzerland	61.6
2	**Archer Daniel Midland**	U.S.	36.2
3	**Kraft Foods**	U.S.	31.0
4	**Unilever**	England / Netherlands	29.9
5	**Cargill**	U.S.	27.3
48	**McCain Foods**	Florenceville, Canada	4.7
69	**Maple Leaf Foods**	Toronto, Canada	3.2
72	**George Weston**	Toronto, Canada	3.1
89	**Saputo**	Montreal, Canada	2.5

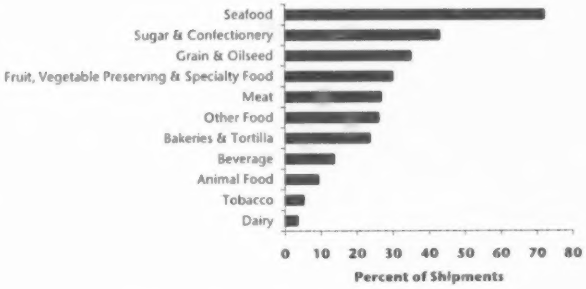
Source: Food Engineering, October 2004.

- **About three-quarters of all FBT processing shipments are destined for Canadian consumers and the rest are exported.** However, some sub-sectors are more export-oriented than others. For example, while nearly three-quarters of the seafood products is exported, only 4% of dairy products is exported.

  In 2003, Canadian processed products were exported to 170 countries, with 85% of the total going to just two markets - the U.S. (76%) and Japan (9%).

Chart B3.11

FBT Processing Export Intensities, 2004



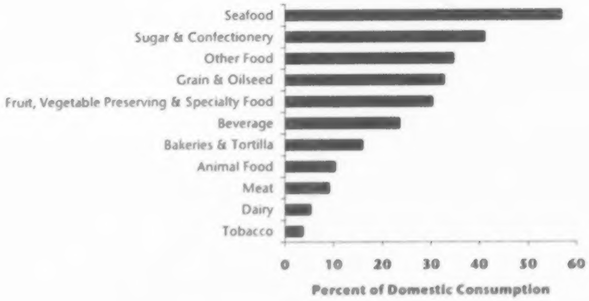
Source: Statistics Canada and AAFC calculations.

- **FBT processors compete with imports for domestic sales.** On average, food, beverage and tobacco product imports have 20% of the domestic market.

  In general, the sub-sectors with the highest and lowest export intensities also have the highest and lowest import intensities, respectively.

Chart B3.12

FBT Processing Import Intensities, 2004



Source: Statistics Canada and AAFC calculations.

FBT processing is becoming more international in scope

- **Most of the large establishments are owned by firms that are international in their scale of operation.**

  Canadian companies rank among these global manufacturers.

Chart B3.10

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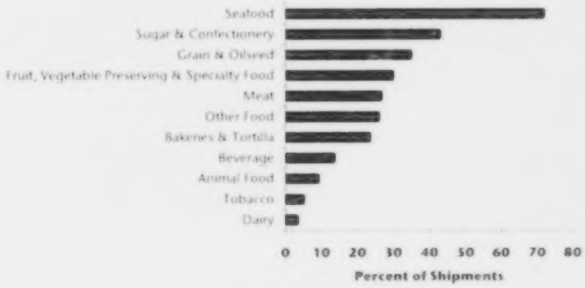

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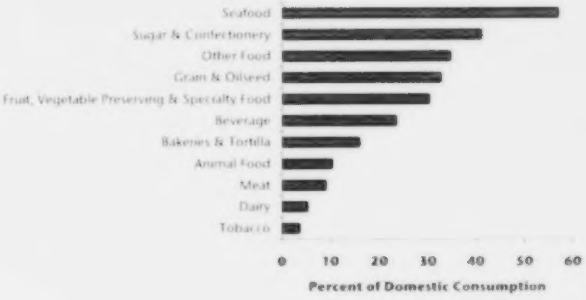


Source: Statistics Canada and AAFC calculations.

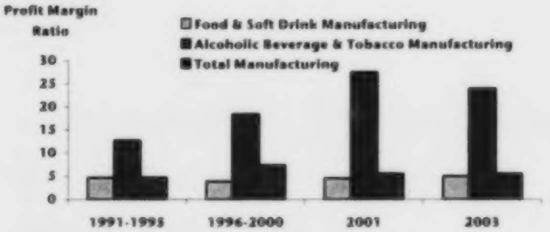
FBT processing has higher rates of return than manufacturing in general

- **Alcoholic beverage and tobacco processing has consistently had substantially higher profit margin ratios than general manufacturing,** while food processing has had slightly lower profit margin ratios.

The profit margin ratio indicates management's ability to generate earnings from the principal business activities of a firm.

Chart B3.13

Profit Margin Ratio of Selected Industries, 1991-2003



Source: Statistics Canada.

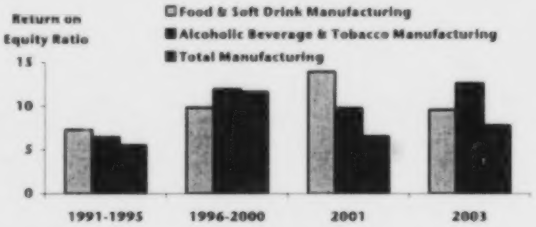
Note: See glossary for definition of the profit margin ratio.

- **In 2003, food and soft drink processing had a higher return on equity ratio than general manufacturing.**

The return on equity ratio measures the level of return to the owners/ investors and is an indicator of their profitability.

Chart B3.14

Return on Equity Ratio of Selected Industries, 1991-2003



Source: Statistics Canada.

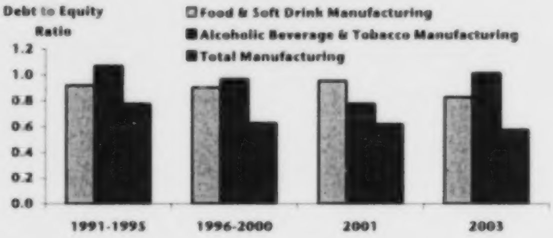
Note: See glossary for definition of the profit margin ratio.

- **FBT processing tends to be more highly leveraged than general manufacturing according to the debt to equity ratio.**

This ratio compares the relative size of debt to resources invested by the owners. It indicates the extent to which a firm relies on borrowed funds to finance its operations.

Chart B3.15

Debt to Equity Ratio of Selected Industries, 1991-2003



Source: Statistics Canada.

Note: See glossary for definition of the profit margin ratio.

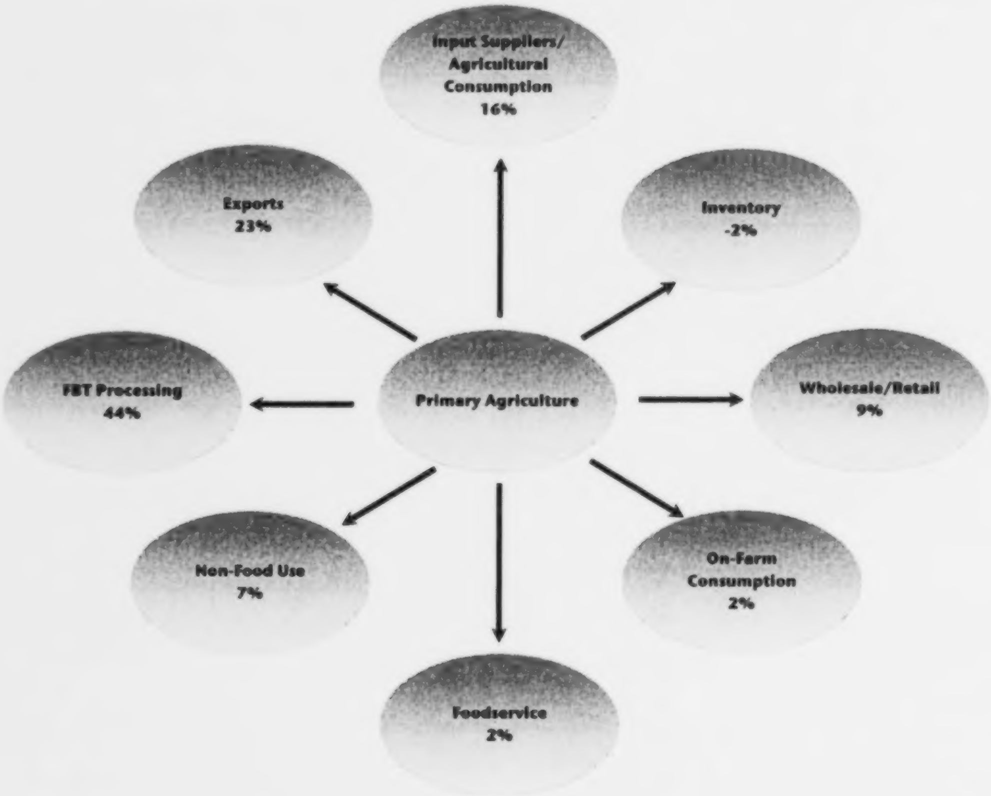
Section B4

Primary Agriculture

Agricultural producers have direct links to all the stages in the supply chain

- Agricultural producers have many alternative marketing choices. In 2001, 23% of farm production was exported directly, 44% went to food processing (some of which was also exported), 11% to food distribution and another 16% was consumed within primary agriculture.

Chart B4.1
Disposition of the Value of Agricultural Production, 2001


Input Suppliers/ Agricultural Consumption 16%
Exports 23%
Inventory -2%
FBT Processing 44%
Primary Agriculture
Wholesale/Retail 9%
Non-Food Use 7%
On-Farm Consumption 2%
Foodservice 2%

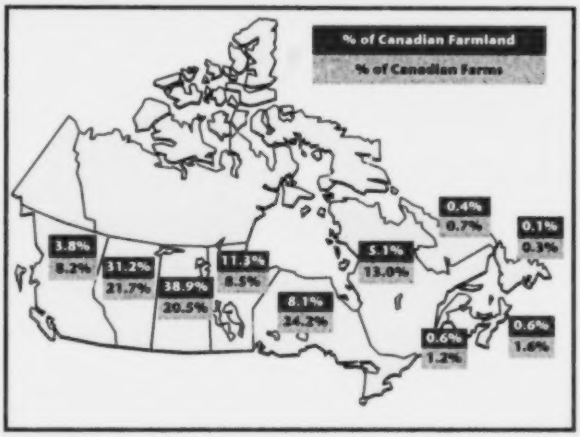
Source: Statistics Canada and AAFC calculations.

Production is very diverse across regions of Canada

- **In 2001 there were 167 million acres of farmland in use across Canada.**

The Prairie provinces account for 137 million acres or roughly 81% of total farm land. British Columbia, Ontario and Quebec account for another 29 million acres or 17%. The remaining 2% of farmland is located in Atlantic Canada.

Chart B4.2
Provincial Shares of Farmland and Farms, 2001



Source: Statistics Canada.

- **Farm size varies across Canada depending in large part on commodity specialization and farm typology group.**

The average farm size in Ontario, where farming is more intensive, is around 230 acres. The average farm size in Saskatchewan, where farming is more extensive, is nearly six times this size or 1,300 acres.

There are more farm operators than there are farms because of partnerships and other joint ownership arrangements.

Chart B4.3
Number and Size of Farms, 2001

	Farmland (Thousands Acres)	Farms (#)	Average Farm Size (Acres)	Farm Operators (#)	Farm Employment (#)
Canada	**166,802**	**246,923**	**676**	**346,195**	**293,000**
N.L.	100	643	156	780	600
P.E.I.	646	1,845	350	2,455	3,700
N.S.	1,006	3,923	256	5,080	6,500
N.B.	959	3,034	316	3,895	5,700
Que.	8,444	32,139	263	47,385	58,000
Ont.	13,507	59,728	226	85,015	75,400
Man.	18,784	21,071	891	28,795	25,500
Sask.	64,904	50,598	1,283	66,275	44,000
Alta.	52,059	53,652	970	76,195	49,900
B.C.	6,393	20,290	315	30,320	23,500

Source: Statistics Canada.

Note: Farm operators are those who are involved in the day-to-day operation of a farm. Farm employment is recorded by major work activity. Thus, if a farm operator relies on off-farm work for a significant portion of his/her income, he/she is not considered to be in farm employment.

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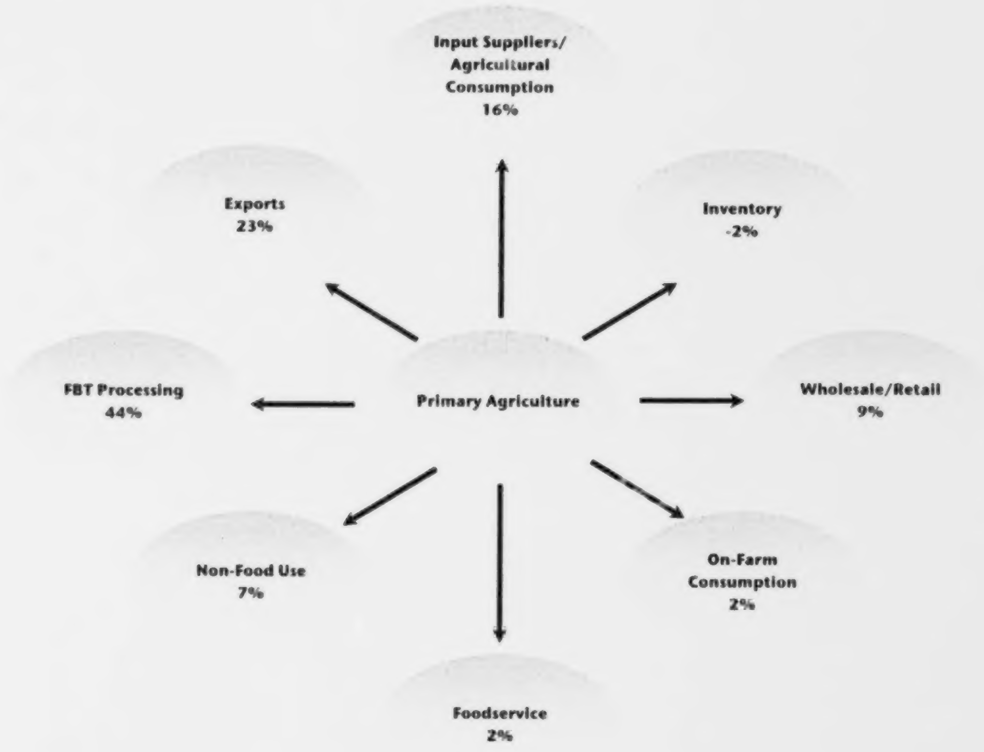
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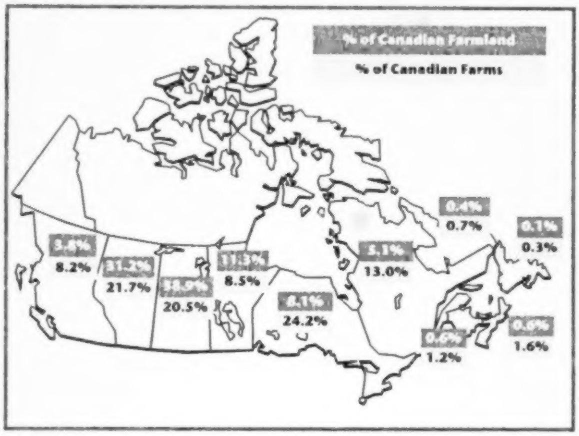

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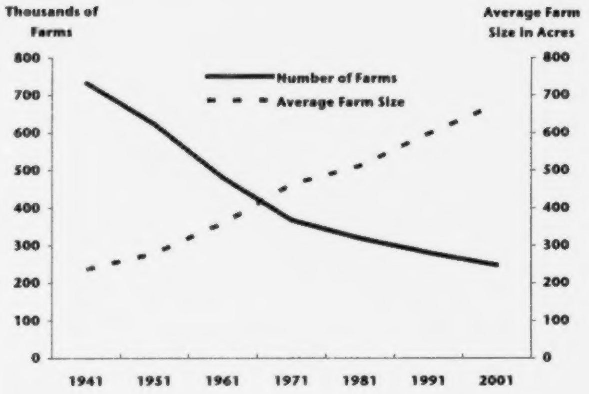
Increasing scale of operation and consolidation is the general trend

- **Over the last 60 years farm size has been steadily increasing,** and the average farm size is now 676 acres. The increase in size reflects in part economies of scale associated with a change to more capital-intensive technologies.

Chart B4.4

Number and Size of Farms in Canada, 1941-2001



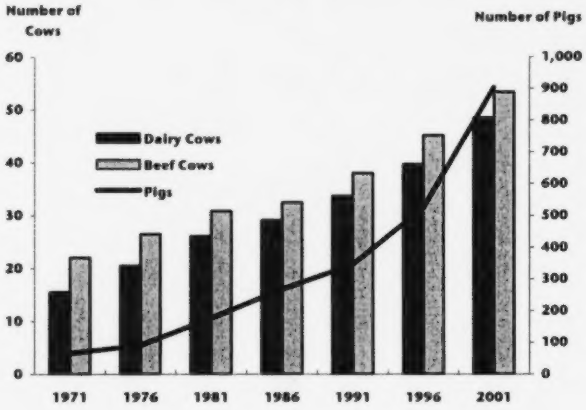
Source: Statistics Canada.

- **Farm size is also increasing in terms of herd size.**

  The average number of dairy cows per farm has more than tripled over the last 30 years while the average number of pigs per farm has increased by more than tenfold.

Chart B4.5

Average Herd Size, 1971-2001



Source: Statistics Canada and AAFC calculations.

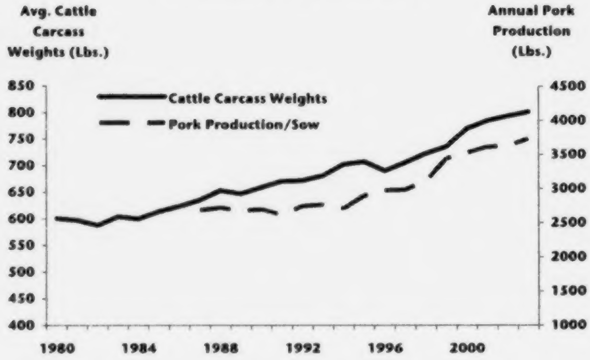
Technological change and improved management are leading to higher yields

- **Livestock yields have increased over time as a result of genetics, biotechnology and better management practices.**

Over the last 20 years cattle carcass weights have increased by 34%.

Larger litter sizes, more litters per year, and heavier carcass weights have resulted in a 38% increase in pork production per sow since 1990.

Chart B4.6
Livestock Yields, 1980-2003



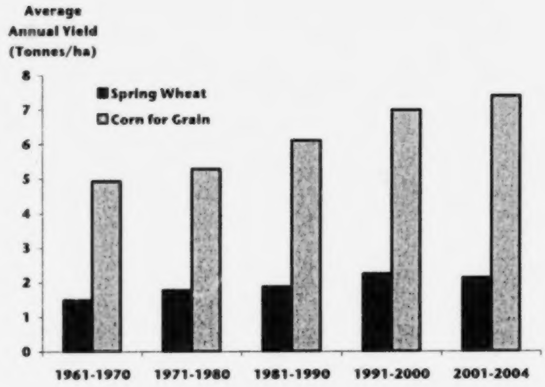
Source: Canadian Beef Grading Agency for cattle carcass weights and Statistics Canada for pork production per sow.

Note: Data for pork production begins in 1987.

- **Crop yields have also shown steady growth as a result of plant breeding.**

Yields have been set back over the last few years because of adverse growing conditions such as droughts and grasshopper infestations, especially in the wheat growing regions of western Canada.

Chart B4.7
Spring Wheat and Corn Yields, 1961-2004



Source: Statistics Canada.

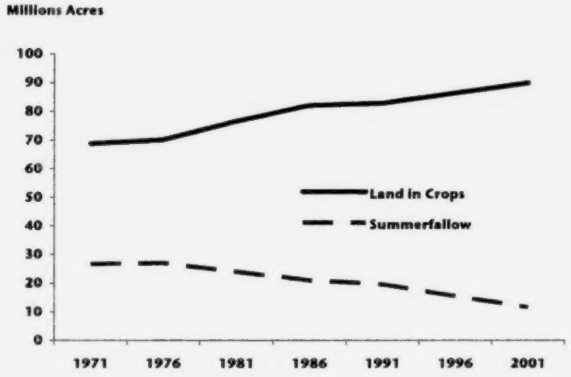
Improved management technologies are reducing the need for summer-fallow

- **Over the last 30 years there has been a strong decline in summerfallow area in the Prairies and a corresponding increase in cropland.**

The decline in summerfallow has been enabled by the adoption of improved land management and farming techniques.

Chart B4.8

Land Use, 1971-2001



Source: Statistics Canada.

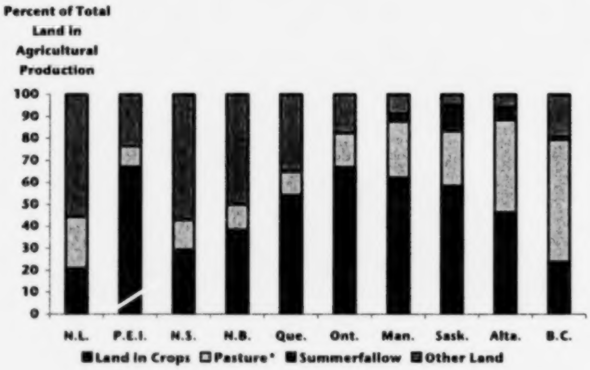
- **In 2001, 90 million acres of farm land were in cultivation, 12 million in summerfallow and another 12 million in tame pasture.** The remaining 53 million acres were marginal pasture as well as woodlots, swamps, bogs and land for the farm homestead.

In percentage terms, Prince Edward Island and Ontario have the most area in crops relative to their total farmland. Alberta and British Columbia have the most area in tame and natural pasture, and Saskatchewan and Alberta, the most area in summerfallow.

The use of summerfallow in eastern Canada is very small, less than half of one percent of total farm land.

Chart B4.9

Land Use, 2001



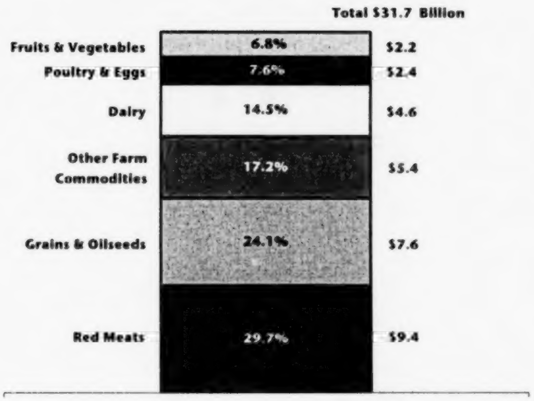
Source: Statistics Canada.

Note: *Includes tame pasture (i.e. cultivated) and marginal pasture (i.e. non-cultivated).

Canada produces a diverse set of commodities and the mix varies across the country

- **In 2004, red meats, grains and oilseeds and dairy were the most important commodities, contributing close to 70% of total farm market receipts.**

Chart B4.10
Farm Market Receipts by Commodity, 2004



Source: Statistics Canada.

- **The importance of the different commodity groups varies from region to region.**

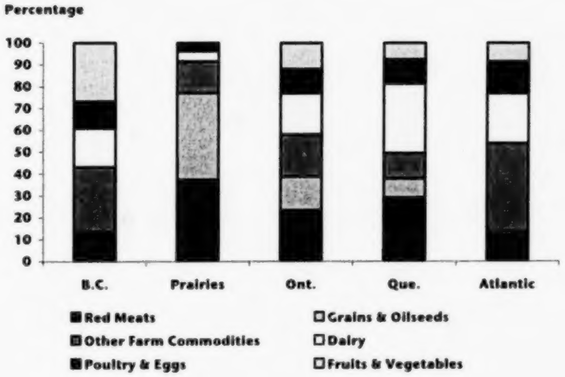
  In British Columbia, market receipts are balanced across a range of commodities, but the most important are fruits and vegetables and floriculture and nursery.

  In the Prairies, red meats and grains and oilseeds normally account for over 80% of market receipts.

  Red meats also usually dominate in Ontario and Quebec along with dairy market receipts.

  In Atlantic Canada, potatoes and dairy are the most important commodities.

Chart B4.11
Regional Farm Market Receipts by Commodity Share, 2004



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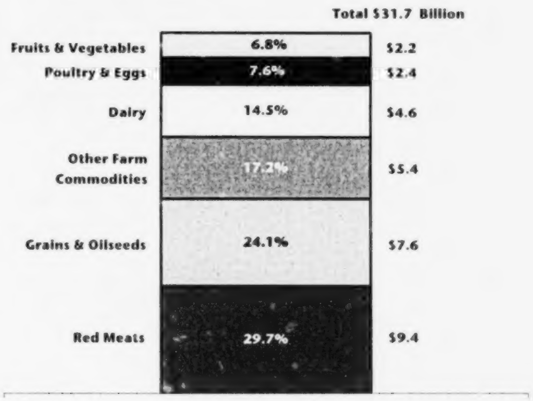

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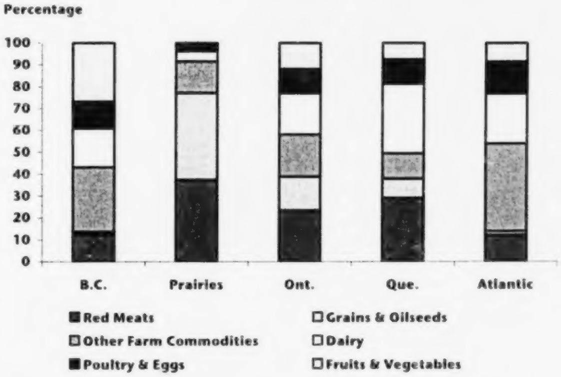

Source: Statistics Canada.

Producers market a significant proportion of farm production through co-operatives

- **In 2002, co-operatives marketed $8.6 billion with Canadian agricultural products.**

Co-operatives are used by farmers to market their products collectively. Close to 300 agricultural marketing co-operatives are incorporated in Canada, representing close to 87,000 memberships and more than 27,000 employees.

Co-operative marketing revenues have decreased in recent years as a result of the loss of the dairy processing function of Agrifoods International and the demutualization of Agricore, a grain handling co-operative. In addition, the Saskatchewan Wheat Pool, the largest agricultural co-operative, recently divested its interest in three livestock operations.

In 2002, over 40% of dairy production, close to one-third of total grain and oilseed production, and over half of poultry and egg production was marketed through co-operatives in Canada.

Chart B4.12

Farm Production Sales by Co-operatives, 2002

Rank	Co-operative Sales (Millions $)	Co-operatives' Market Share (%)
Dairy	3,164	42
Grains & oilseeds	1,845	30
Cattle & hogs	1,839	15
Poultry & eggs	1,451	52
Fruits & vegetables	223	6
Honey & maple	86	29
Total	**8,666**	

Source: Co-operatives Secretariat and Statistics Canada.

Note: 1) Market share is calculated at the farm gate level.
2) The total of Co-operative sales includes other marketing revenues.

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Some sectors are heavily export-oriented, while others are not

- **Grain and oilseed producers have always been very export-dependent.**

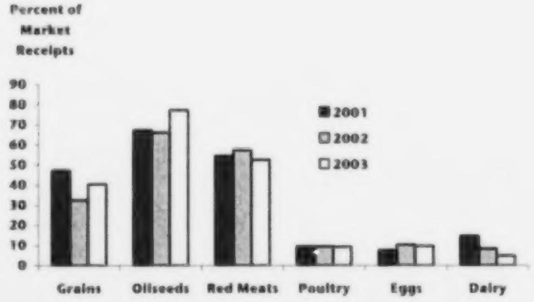
In 2001 grain producers earned around half of their cash receipts from the export market, but in 2002 this share was down to 33%. The drop in the export share of grain cash receipts was due to reduced supplies available for export because of the drought. 2003 showed a rebound to 40% of cash receipts from export markets as a result of increased grain production.

The export dependency of red meat producers nearly doubled over the last decade.

The 2002 WTO ruling on Commercial Export Milk (CEM) coupled with the WTO subsidized export limits have contributed to the drop in dairy export dependency in 2003.

Chart B4.13

Portion of Farm Market Receipts from Export Sales, 2001, 2002 and 2003



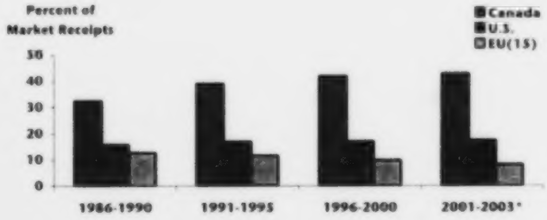
Source: Statistics Canada and AAFC calculations.

Note: Export dependency is calculated in terms of volume to avoid export and farmgate price differentials.
Grain and oilseeds export dependency is calculated on a crop year basis and dairy on a dairy year basis.

- **Overall, Canada's agricultural producers are significantly more export-oriented than are U.S. and EU(15) agricultural producers.**

Chart B4.14

Portion of Farm Market Receipts from Export Sales for Canada, the U.S. and the EU(15), 1986-2003



Source: Statistics Canada, OECD and AAFC calculations.

Note: Export dependency is calculated as a value of production weighted average of the export dependencies of the following commodities - wheat, coarse grains, oilseeds, beef, pork, dairy and poultry. These commodities cover about 50% of the EU(15)'s total farm production, 60% of the U.S.'s total of the farm production and 75% of Canada's total farm production.
*EU(15) average only available for 2001-2002.

Producers are diversifying their production mix

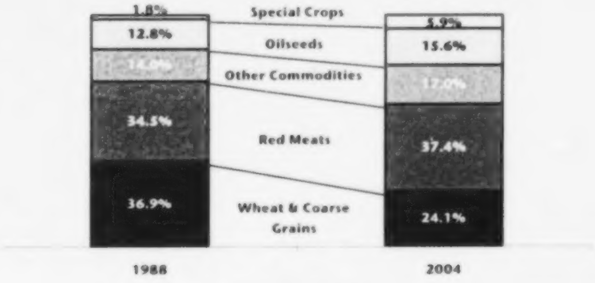
- **Producers are diversifying their production mix in order to increase their value added and to spread risk.**

  In the Prairies, grain's share of market receipts has dropped from 37% in 1988 to around 24% in 2004, with a corresponding rise in the shares of red meats and special crops.

  Among other factors, diversification has been encouraged by declining grain prices and domestic policy reforms such as the elimination of the *Western Grain Transportation Act* in 1995.

Chart B4.15

Evolution of Prairie Farm Market Receipts by Commodity, 1988 and 2004



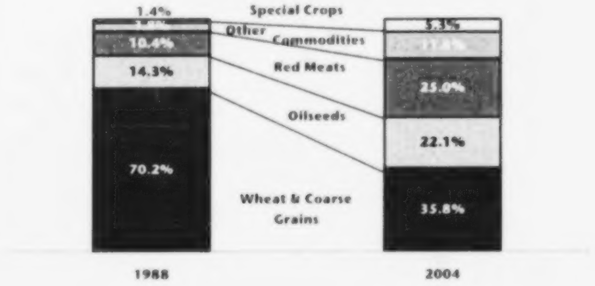
Source: Statistics Canada and AAFC calculations.

- **In terms of commodity export earning shares, diversification away from grain in the Prairies has been even more dramatic.**

  The increase in share for red meats is notable, increasing steadily until the BSE situation in 2003.

Chart B4.16

Evolution of Prairie Export Earnings by Commodity, 1988 and 2004



Source: Statistics Canada and AAFC calculations.

- **Organic production has also been increasing. Over the last six years, the number of certified organic producers has increased by around 70% and the number of acres under organic production has tripled.**

Chart B4.17

Number of Certified Organic Growers, 1998-2003

	1998	1999	2000	2001	2002	2003
Number of certified producers	1,932	2,321	2,981	3,236	3,120	3,317
Number of farms in transition	229	304	312	>277	>390	>250
Number of acres under organic production	>404,850	>455,800	>839,250	>1,064,000	1,181,921	1,261,959

Source: Canadian Organic Growers Inc., Organic Statistics 2003, CANADA and The Canadian Organic Grower magazine, various issues.

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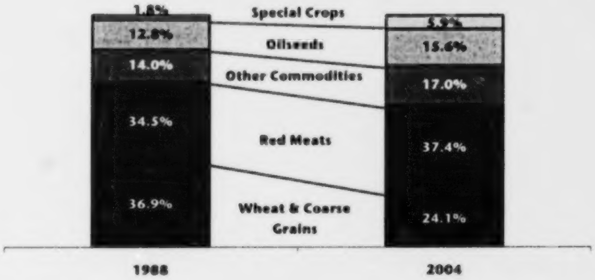
Chart B4.15

Evolution of Prairie Farm Market Receipts by Commodity, 1988 and 2004



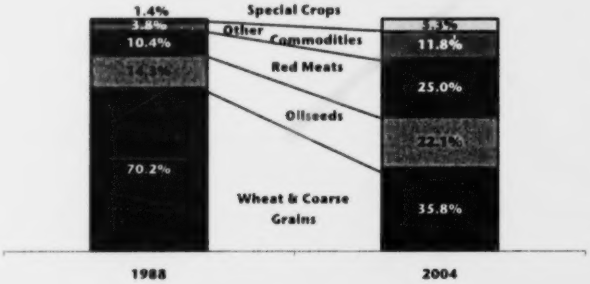
Source: Statistics Canada and AAFC calculations.

- **In terms of commodity export earning shares, diversification away from grain in the Prairies has been even more dramatic.**

  The increase in share for red meats is notable, increasing steadily until the BSE situation in 2003.

Chart B4.16

Evolution of Prairie Export Earnings by Commodity, 1988 and 2004



Source: Statistics Canada and AAFC calculations.

- **Organic production has also been increasing. Over the last six years, the number of certified organic producers has increased by around 70% and the number of acres under organic production has tripled.**

Chart B4.17

Number of Certified Organic Growers, 1998-2003

	1998	1999	2000	2001	2002	2003
Number of certified producers	1,932	2,321	2,981	3,236	3,120	3,317
Number of farms in transition	229	304	312	>277	>390	>250
Number of acres under organic production	>404,850	>455,800	>839,250	>1,064,000	1,181,921	1,261,959

Source: Canadian Organic Growers Inc., Organic Statistics 2003, CANADA and The Canadian Organic Grower magazine, various issues.

Farm market receipts in 2004 continue to be down

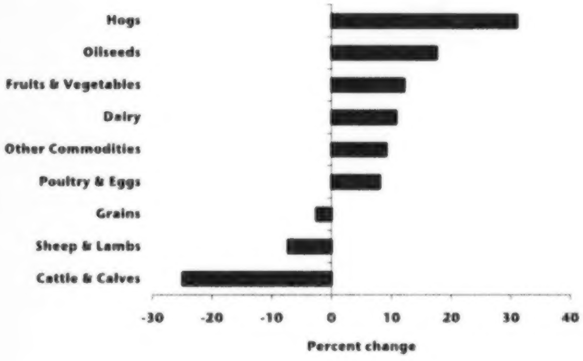
- **Farm market receipts in 2004 were higher by $2.0 billion relative to the very difficult year experienced in 2003.**

The sharp decline in cattle and calf receipts reflects the loss of the export market for ruminants and their meat products (see Charts A2.10 and A2.11).

Relative to the previous five-year average, receipts for cattle and calves were down by 25%, while hog receipts were higher by 31%, which reflects the strong growth in the industry.

Chart B4.18

Farm Market Receipts by Commodity 2004 Relative to Five Year Average



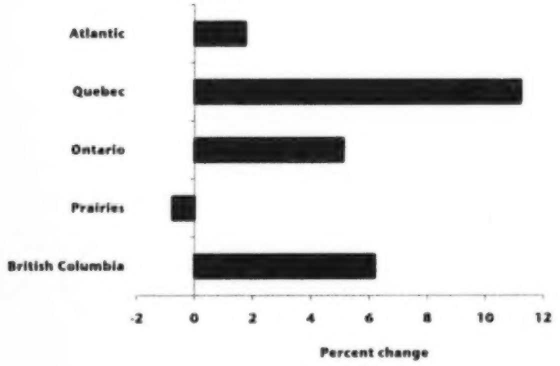
Source: Statistics Canada.

- **On a regional basis, the Prairies have been the hardest hit due to their commodity make-up, with total market receipts showing very low growth relative to the five-year average and to other regions.**

Market receipts for Quebec in 2004 were about 11% higher than the five-year average, which mainly reflects growth in hog and dairy receipts.

Chart B4.19

Regional Farm Market Receipts, 2004 Relative to Five Year Average



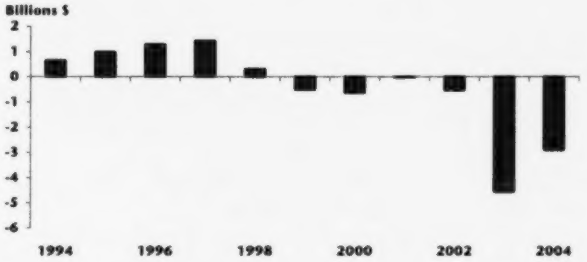
Source: Statistics Canada.

Program payments are helping to cover low market income in 2004

Chart B4.20
Total Realized Net Farm Income, 1994-2004

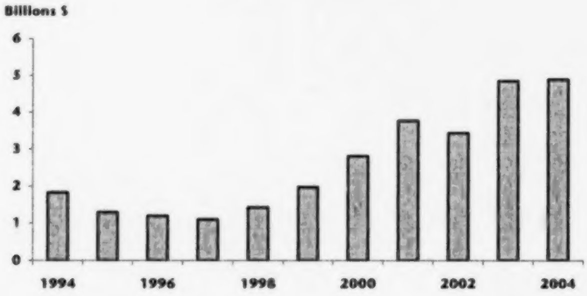
- **Realized net market income increased in 2004 from 2003, but still showed a loss.** This reflects ongoing difficulties with BSE, poor grain quality, and higher world petroleum prices.

Realized Net Market Income



- Program payments reached an all-time high of $4.9 billion in 2004.

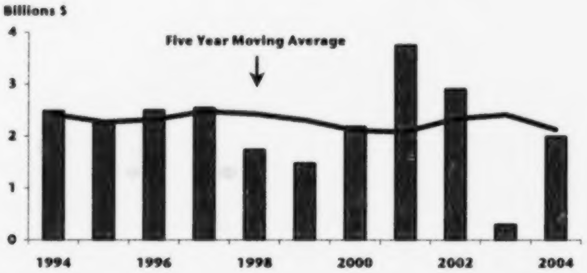
Program Payments



- **Realized net income for primary agriculture as a whole was $2.0 billion in 2004.**

  However, income situations vary by individual producers depending on their commodity specialization, size of operation and financial situation.

Realized Net Farm Income



Source: Statistics Canada and AAFC.

Farm family income tends to be comparable to that of non-farm families

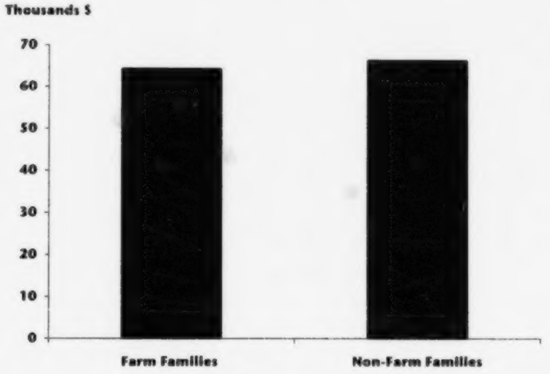
- **In most years, average farm family income is comparable to the average income received by non-farm families.**

In 2000, the average total income from all sources for a farm family was $64,160 compared to $66,263 received by the average Canadian family.

Small and medium-sized farms tend to have income slightly below the average of non-farm families, while families on large-sized farms tend to have income above the average.

Farm family income is the sum of the total income of the farmer and his/her family members. It includes income from both farm and off-farm sources.

Chart B4.21
Average Family Income, 2000

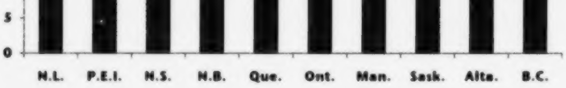


Source: Statistics Canada.

- **In 2000, the average income from all sources for farmers was $27,600.**

Farmers in Prince Edward Island, Ontario and Alberta, on average, earned incomes above this average.

Chart B4.22
Total Income from all Sources Received by Farmers and Farm Managers, 2000



Source: Statistics Canada.

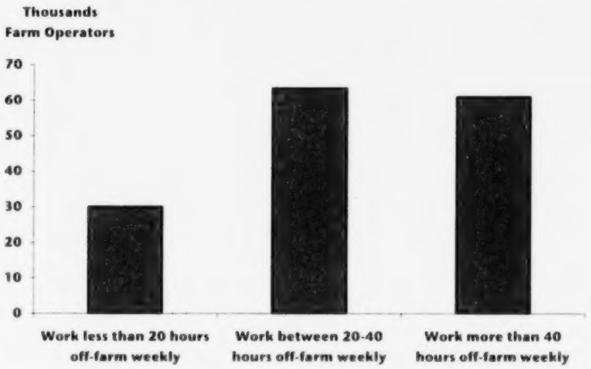
Off-farm income accounts for a significant amount of farm family income

- **In 2000 net farm income, on average, contributed only 18¢ of each dollar earned in total family income**[11].

Small and medium-sized farm operators do not have the scale of operation for farm income to contribute significantly to total family income. For these farm families, off-farm income is even more important in determining their standard of living, accounting for almost all of their family income.

Chart B4.23

Number of Farm Operators in Off-Farm Employment, 2000



Source: Statistics Canada.

- **Nearly 45% of all farm operators earned some portion of their income from off-farm work in 2000.**

British Columbia has the largest proportion of farm operators working off-farm at 53%, followed by Newfoundland and Labrador at 50%.

A considerably smaller proportion of Quebec farmers worked off-farm in 2000 than in other provinces.

Chart B4.24

Percent of Farm Operators in Off-Farm Employment, 2000

	% of total farm operators who work less than 20 hours off-farm weekly	% of total farm operators who work between 20-40 hours off-farm weekly	% of total farm operators who work more than 40 hours off-farm weekly
N.L.	9.0	19.9	21.2
P.E.I.	7.9	19.3	15.7
N.S.	8.9	19.4	20.1
N.B.	7.1	19.8	21.3
Que.	5.3	14.3	10.7
Ont.	7.9	17.9	19.6
Man.	10.7	19.0	16.0
Sask.	9.3	17.5	16.5
Alta.	9.7	19.4	20.1
B.C.	10.4	23.0	19.3

Source: Statistics Canada.

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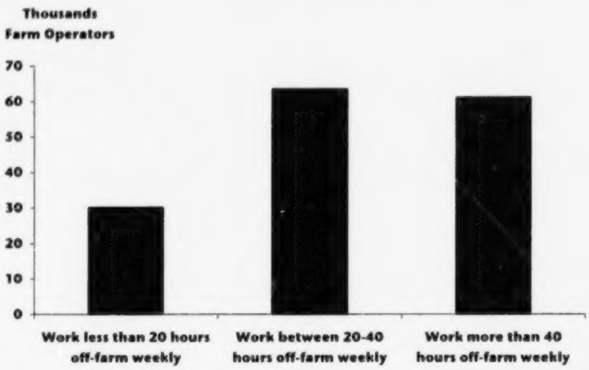

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B.C.	10.4	23.0	19.3

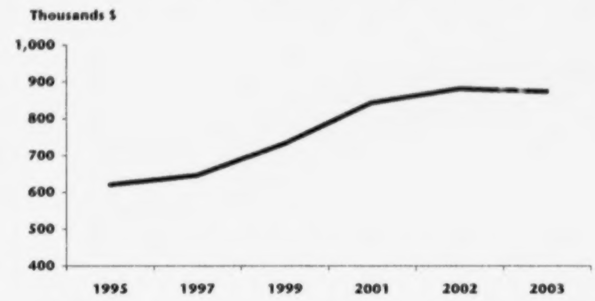
Source: Statistics Canada.

Net worth of farm households is higher than that of average Canadian households, and is increasing over time

- **Farm total net worth decreased slightly in 2003, after a steady increase over recent years.** In 2003 the average farm's total net worth was $874,000, down 1% from 2002.

Chart B4.25

Average Farm Total Net Worth, 1995-2003

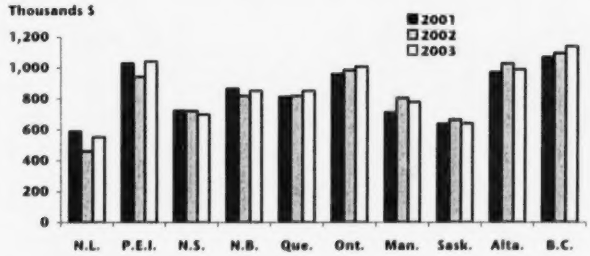


Source: Statistics Canada and AAFC.

- **The trend in net worth varied among the provinces.** In the Prairie provinces and Nova Scotia net worth declined, while in central Canada and B.C. the upward trend of recent years continued.

Chart B4.26

Average Farm Total Net Worth by Province, 2001, 2002 and 2003

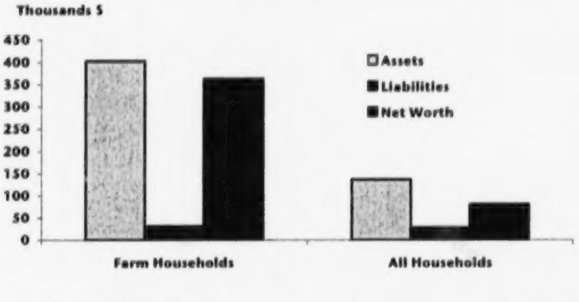


Source: Statistics Canada and AAFC.

- **Farm households have considerably more net worth than average Canadian households.** This is because farm families put much of their income back into farm assets.

Chart B4.27

Median Net Worth, Canadian Households and Farm Households, 1999



Source: Statistics Canada.

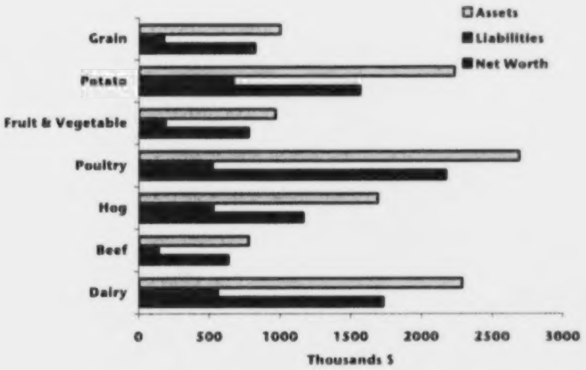
Farm net worth varies across sectors

- **On average, poultry, dairy and potato farms have the highest net worth (ranging from $2.2 to $1.6 million in 2003).**

Potato farms carry the largest debts (around $670,000 per farm) followed by dairy, hog and poultry farms (ranging from $560,000 to $520,000 per farm).

Chart B4.28

Average Assets, Liabilities and Net Worth by Farm Type, 2003



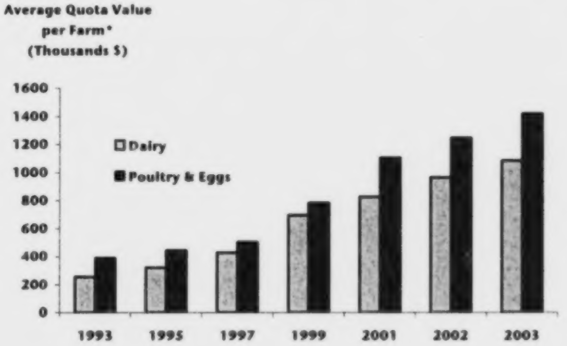
Source: AAFC.

- **Quota values in the supply managed industries have grown significantly in recent years.** They now account for a substantial proportion of the total assets of these types of farms.

In 2003 the average dairy farm had around $1.1 million worth of quota, and the average poultry farm around $1.4 million, accounting for 47% and 53% of total farm assets, respectively.

Chart B4.29

Average Quota Value for Supply Managed Farms, 1993-2003



Source: Statistics Canada and AAFC.

Note: *Market Value.

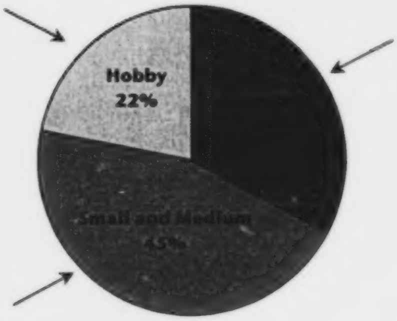
Large farms account for the vast majority of production

- **While only one-third of census farms are large-sized (sales $100,000 and over), they account for nearly 90% of farm production and receive 80% of agricultural program payments.**

Small and medium-sized farms account for nearly half of all farms in Canada, but account for only 12% of production and receive most of the remaining 20% of program payments.

Hobby farms represent the remaining one-fifth of farms. Hobby farming is a lifestyle choice and makes no significant contribution to family income. All farms earning less than $10,000 in sales are classified as hobby farms. There are 54,000 hobby farms in Canada.

Chart B4.30
Distribution of Canada's 247,000 Farms by Gross Farm Receipts, 2001



Hobby Farms
<$10,000 in Sales
22 % of Farms
1% of Gross Farm Receipts
1% of Program Payments

Large-Sized Farms
$100,000 and Over in Sales
33% of Farms
88% of Gross Farm Receipts
80% of Program Payments

Small & Medium-Sized Farms
Sales of $10,000 - $99,999
45% of Farms
12% of Gross Farm Receipts
19% of Program Payments

Source: Statistics Canada.

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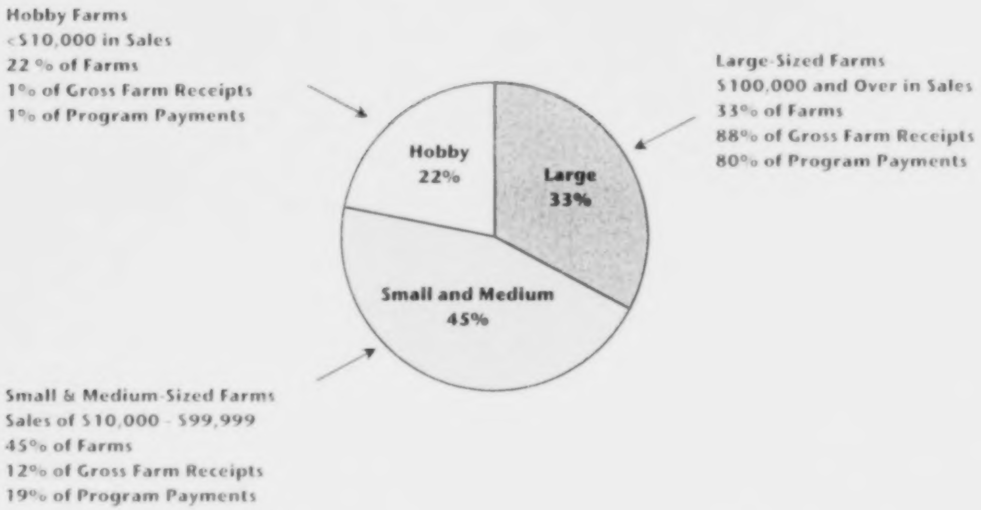


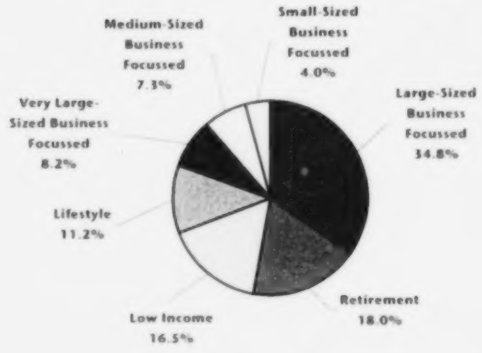
Source: Statistics Canada

Different people farm for different reasons

- **Farms, excluding hobby, can also be classified based on the age, business motivation and financial situation of the farm operators.**
  - Almost 30% of farms are retirement and lifestyle farms.
  - Another 17% are low income farms with total family income less than $30,000.
  - The remaining farms are business-focussed, and can be further categorized according to their scale of operation, ranging from small-sized to very large-sized farms.

Chart B4.31

Distribution of Farms with $10,000 in Gross Farm Receipts or more by Typology Group, 2003



Source: Statistics Canada and AAFC

Note: This classification excludes hobby farms.

Farm Typology Groups

Retirement - farms managed by an operator 60 years of age or older

Lifestyle – small-sized farms managed by families with off-farm income greater than $50,000

Low-income - small and medium-sized farms managed by families with total income less than $30,000

Business-focussed - all other family farms

Small-sized - revenues of $10,000 - $49,999

Medium-sized - revenues of $50,000 - $99,999

Large-sized - revenues of $100,000 - $499,999

Very Large-sized - revenues of $500,000 and over

Non Family Farms - Hutterite Colonies, other commercial operations, non-family corporations, and co-operatives

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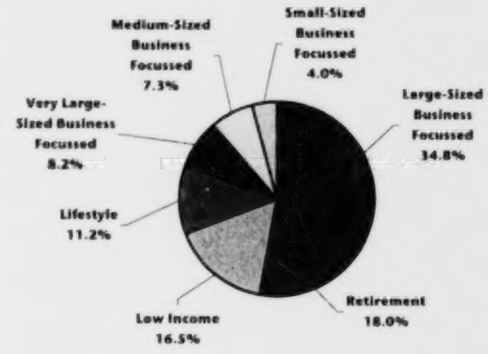

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Performance varies among farm operators

- **Financial performance varies among farm operators, even among producers operating the same size farm with the same commodity specialization.** These variations in performance are consistent over time.

  The trends are as follows:

  Top performers are consistently profitable, regardless of market conditions. Most of their income comes from the market.

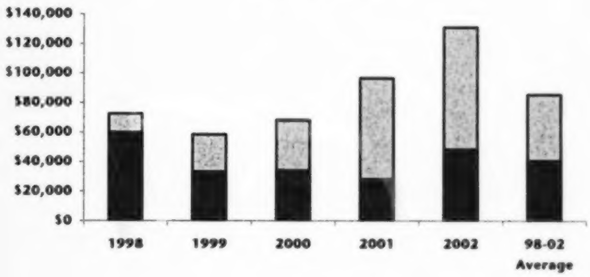
  The middle group are sometimes profitable, but, on average, have little net market income.

  The bottom performers consistently lose money on their operations, and rely heavily on large government payments.

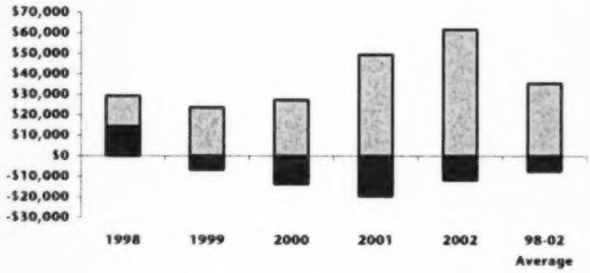
Chart B4.32

Net Income of Large Canadian Grain and Oilseed Farms, 1998-2002

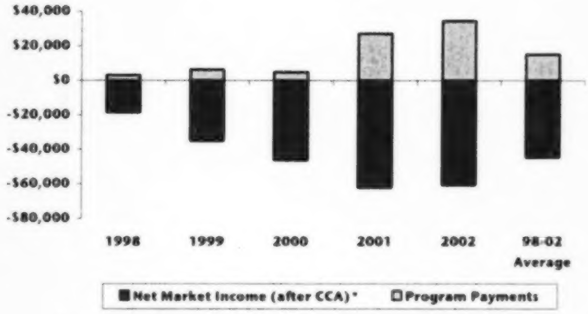
Top 20% of Farms



Middle 20% of Farms



Bottom 20% of Farms



Source: NISA Database.

Note: *CCA - Capital Cost Allowance.
Farms were ranked according to their average net income over the five-year period. The three samples on which the chart analysis is based were drawn from this average ranking. Data for the individual producers in each sample were then collated for each of the five years.

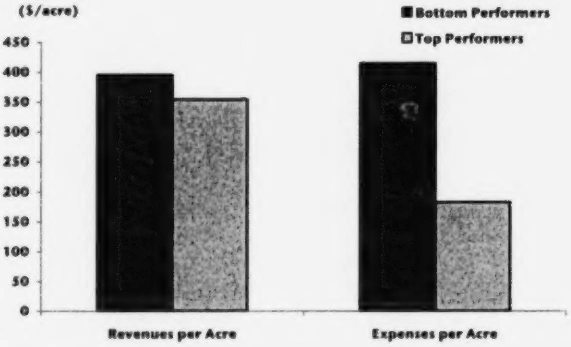
Better cost control is a key difference between top and bottom performers

- **Top managers control many major expenses better than poor performers.**

Expenses per acre are significantly different between top and bottom performers, while revenues per acre are similar.

Chart B4.33

Revenues and Expenses for Prairie Large Business Focussed Grain and Oilseed Farms, 2003



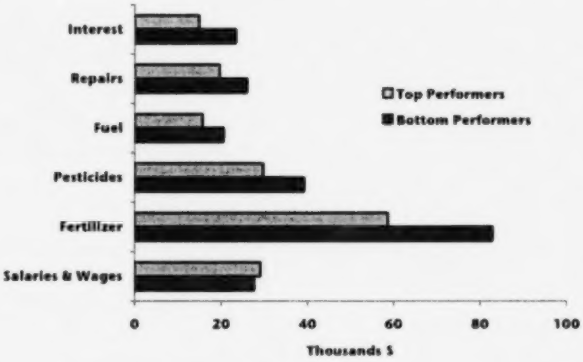
Source: Statistics Canada and AAFC.

Note: Top and bottom performers are the top and bottom 20% respectively.

- For example, top performers on large-sized grain and oilseed farms in Manitoba have, on average, lower interest charges and lower expenditures on inputs such as fertilizer, pesticides and fuel.

Chart B4.34

Selected Average Expenses of Manitoba Large-Sized Grain and Oilseed Farms, 1998-2002



Source: NISA Database and AAFC calculations.

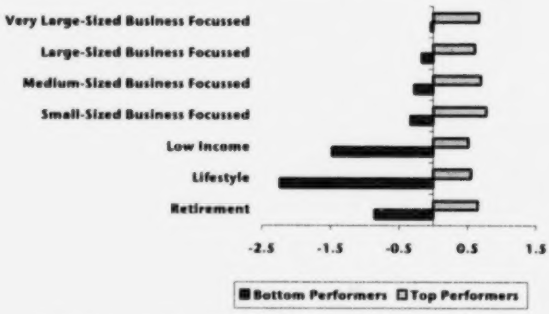
Note: Top and bottom performers are the top and bottom 20% respectively.

Small-sized farms can be as profitable as large-sized operators

- **Farm size is not a limiting factor in financial performance.** The top among small-sized farms generate a gross margin ratio comparable to top performers among large-sized farms.

Chart B4.35

Gross Margin Ratios Reported by Top and Bottom Performers by Typology, 2003



Source: Statistics Canada and AAFC calculations.

Note: Gross margin ratios are calculated as the ratio of the farm's gross margin to market revenue.
Top and bottom performers are the top and bottom 20% respectively.

SECTION B5

Agriculture Input and Service Suppliers

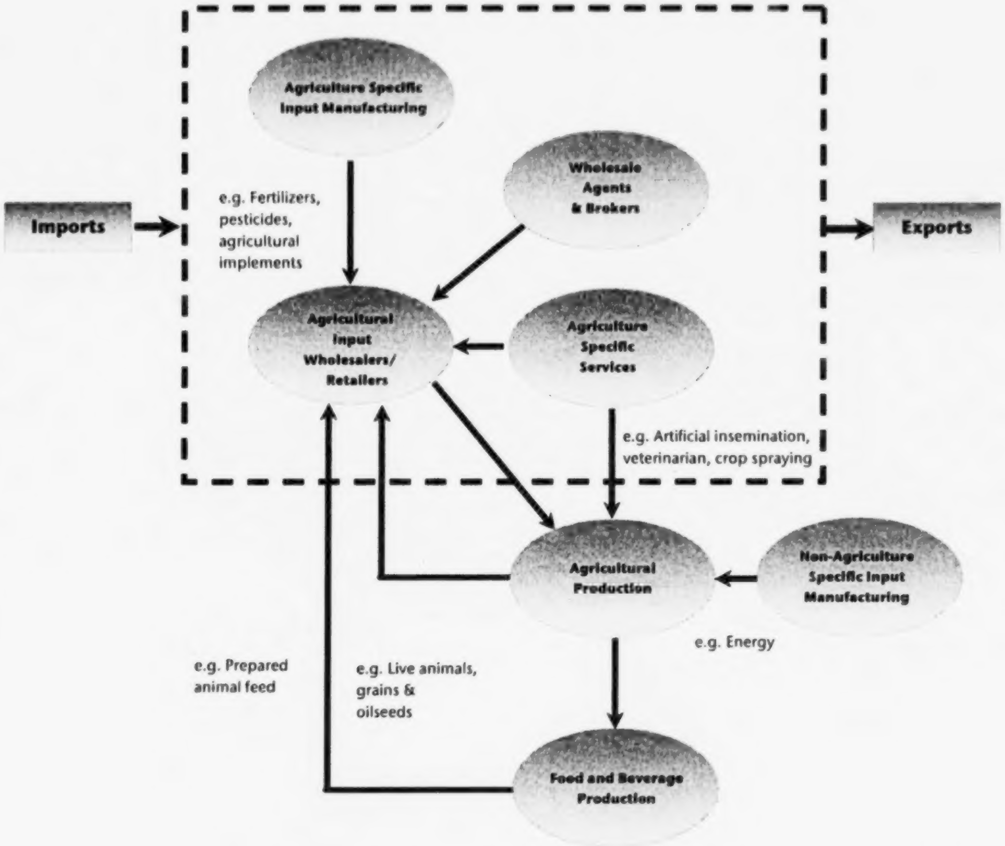
Input suppliers are a whole value chain

- **Agriculture specific input and service suppliers constitute a whole value chain within the agriculture and agri-food system that includes manufacturing, service and retail/wholesale activities.** They supply and support primary agriculture, and at the same time act as buyers from downstream industries (e.g. prepared animal feed from grain and oilseed mills or feeder calves from cow calf operations).

Agriculture specific input and service suppliers are heterogeneous. They range from multinational firms producing agricultural machinery and implements to small local businesses selling feed and pesticides, and from international commodity brokers to the next door neighbour doing custom work.

Chart B5.1

The Value Chain of Agriculture-Specific Input and Service Suppliers

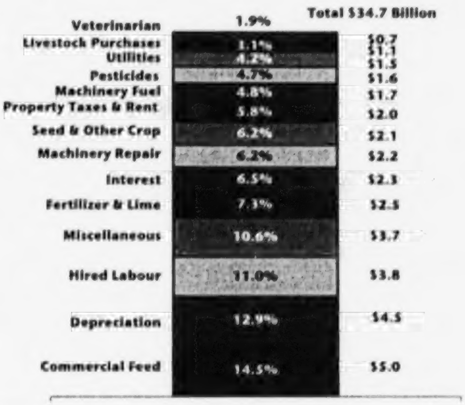

Agriculture Specific Input Manufacturing
Wholesale Agents & Brokers
Imports
e.g. Fertilizers, pesticides, agricultural implements
Exports
Agricultural Input Wholesalers/ Retailers
Agriculture Specific Services
e.g. Artificial insemination, veterinarian, crop spraying
Agricultural Production
Non-Agriculture Specific Input Manufacturing
e.g. Energy
e.g. Prepared animal feed
e.g. Live animals, grains & oilseeds
Food and Beverage Production

Globally, input prices have steadily increased

- **In 2004 agriculture producers spent nearly $30.2 billion on operating expenses after rebates,** and incurred another $4.5 billion in depreciation expenses.

  The largest individual expense category was for commercial feed at $5.0 billion followed by hired labour at $3.8 billion.

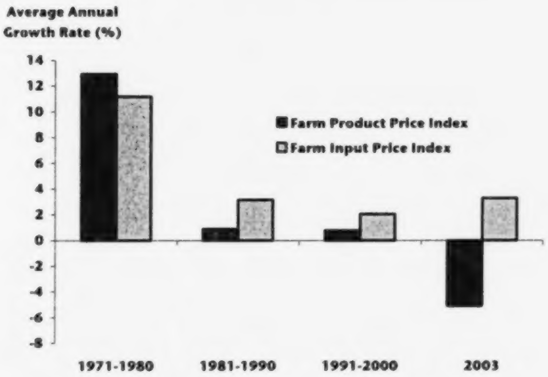
Chart B5.2
Farm Expenses, 2004



Source: Statistics Canada.

- **Since 1981, the increase in farm product prices have not kept pace with the increase in farm input prices.** The 2003 negative growth rate in product prices may be partially due to the BSE crises.

Chart B5.3
Farm Input Price and Farm Product Prices, 1971-2003



Source: Statistics Canada.

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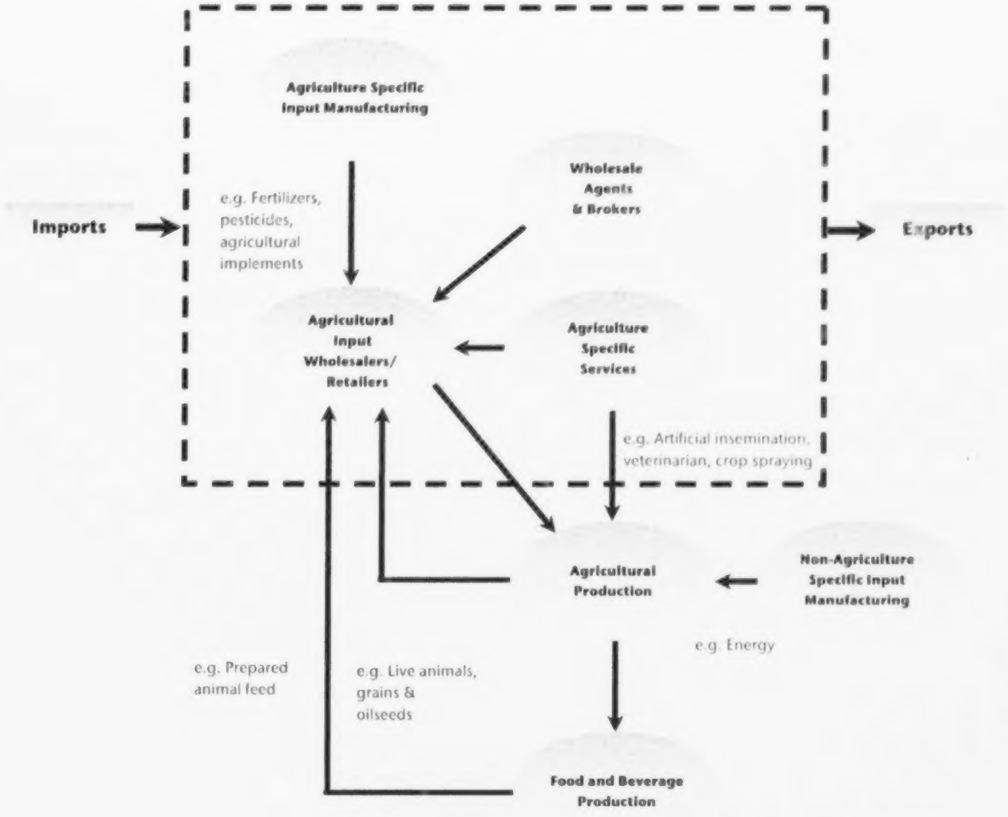
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e.g. Fertilizers, pesticides, agricultural implements
Exports
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Agriculture Specific Services
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Agricultural Production
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e.g. Live animals, grains & oilseeds
Food and Beverage Production

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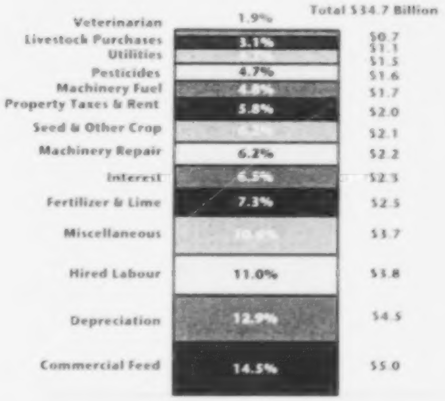
Chart BS.2

Farm Expenses, 2004

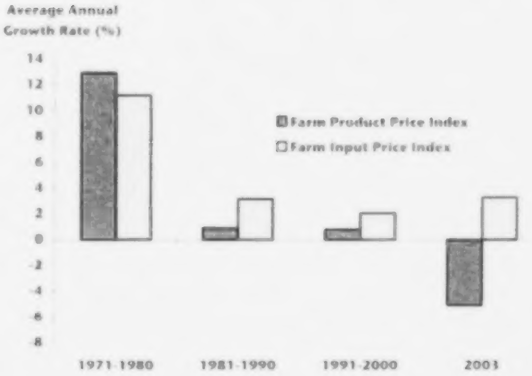


Source: Statistics Canada

- **Since 1981, the increase in farm product prices have not kept pace with the increase in farm input prices.** The 2003 negative growth rate in product prices may be partially due to the BSE crises.

Chart BS.3

Farm Input Price and Farm Product Prices, 1971-2003



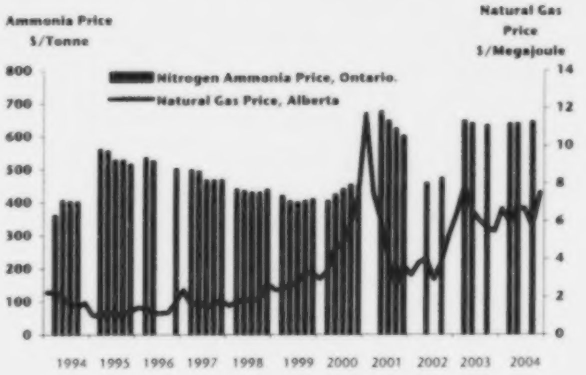
Source: Statistics Canada

Improvements in inputs and changing agronomic techniques have contributed to rising input costs

- **The cost of nitrogen fertilizer is influenced by natural gas prices.** This is because natural gas is the main input into the production of ammonia, and ammonia in turn is the basic component used in nitrogen fertilizer manufacturing.

  This relationship, however, has not always held. In the mid-1990's strong fertilizer demand in combination with near-full industry capacity utilization kept fertilizer prices high despite low natural gas prices.

Chart B5.4
Nitrogen Ammonia & Natural Gas Prices, 1994-2004

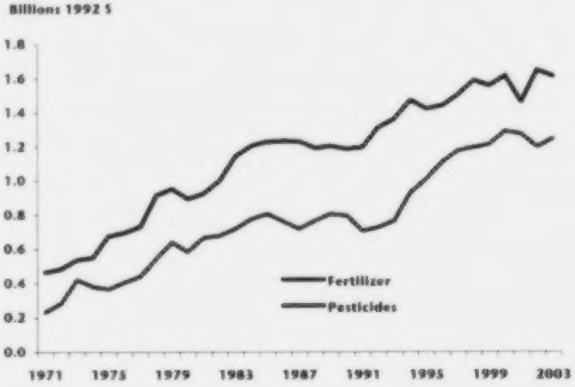


Source: Natural Resources Canada and Ridgetown College, University of Guelph.

- **Over time, agricultural producers have adopted different farming practices to either improve yields, reduce costs or differentiate their products, which are creating demand for different kinds of inputs.**

  For example, with a decrease in summerfallow and more intensive farming, chemical usage, such as fertilizer and pesticides, has been steadily growing over time.

Chart B5.5
Chemical Input Usage in Farming, 1971-2003



Source: Statistics Canada and AAFC calculations.

Farmland values reflect commodity price movements

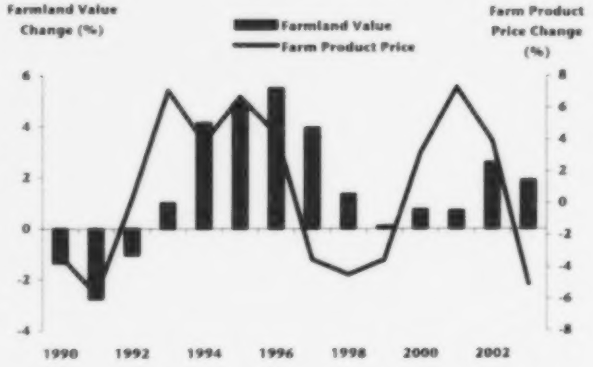
- **One of the strongest determinants of farmland value is the overall health of the agriculture sector.**

Commodity prices and government program payments tend to become capitalized in land values because land is a fixed input.

Other factors that affect land values include the land quality, distance from major urban centers, and general economic conditions.

Chart B5.6

Farmland Value in Canada and Farm Product Prices , 1990-2003



Source: Farm Credit Corporation, Statistics Canada and AAFC calculations.

- **For example, land prices in Saskatchewan generally follow price movements in wheat with a lag.**

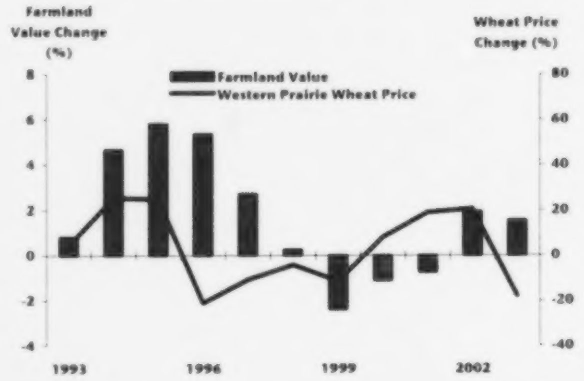
Rising wheat prices since 2000 cushioned falling land prices, and eventually contributed to a positive increase in 2002.

If the historical trend continues, Saskatchewan land prices in 2004 should fall in response to the fall in wheat prices in 2003.

Saskatchewan land price recovery has lagged behind that of the rest of Canada partly due to the drought.

Chart B5.7

Farmland Value in Saskatchewan and Western Prairie Wheat Prices , 1993-2003



Source: Farm Credit Corporation, Canadian Wheat Board and AAFC calculations.

Producers purchase a signficant proportion of their inputs through co-operatives

- **Market share for co-operative sales of farm petroleum has risen since 1986** primarily due to expanded operations in western Canada.

  A significant decline in co-operatives' market share is observed in fertilizer and chemical sales. The demutualization of Agricore Co-operative, which sold a significant quantity of fertilizer and chemicals in 2001, is the main contributing factor to the decline in co-operatives' market share in 2002.

Chart B5.8

Market Shares of Co-operatives in Farm Supplies, 1986-2002

	1986	1991	1996	2002
	% of Total Farm Expenditures			
Fertilizer & Chemicals	31	36	35	23
Farm Petroleum	22	29	27	43
Seed	23	17	17	6
Feed	26	25	17	13

Source: Co-operatives Secretariat and Statistics Canada.

- **Total co-operative supply sales in 2002 were $4.4 billion.**

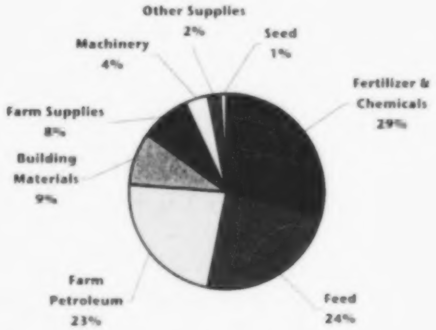
  A prolonged drought period in western Canada reduced the cropped area in 2002, which negatively affected the demand for farm supplies.

  Co-operatives sell a wide range of supplies from fertilizer and chemicals to feed, farm machinery, farm supplies (such as water bowls and wheelbarrows) and non-farm supplies (such as home garden seeds and clothing).

  Co-operatives of farm supplies are businesses owned by farmers that strive to provide high quality and affordable farm supplies for farmers. The surplus generated by these co-operatives are returned to farmer members and thereby increase farm income.

Chart B5.9

Co-operative Supply Sales, 2002



Source: Cooperatives Secretariat.

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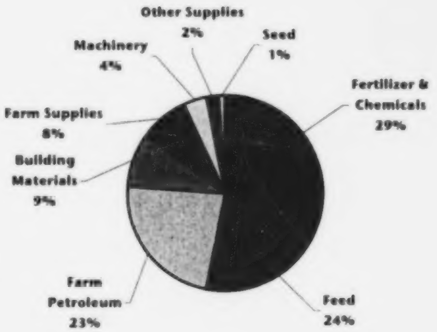


Source: Cooperatives Secretariat.

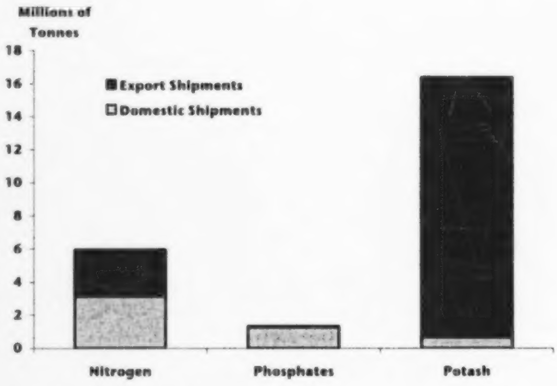
Canada is a major world producer of fertilizers

- **Canada produces about 30% of the world's potash and holds most of the world's reserves.**

Fertilizer production is primarily located in Alberta (nitrogen and phosphate) and Saskatchewan (potash and nitrogen). Canada's only phosphate mine is located in northern Ontario but the phosphate is processed in Alberta.

Canada exports about 95% of its potash production and about one-half of its nitrogen products.

Chart B5.10
Fertilizer Shipments and Exports, 2003



Source: Canadian Fertilizer Institute.

M

SECTION C

Government and the Agriculture and Agri-Food System

Government support to the agriculture and agri-food sector remains high in 2004/05, but at a lower level than in the previous year

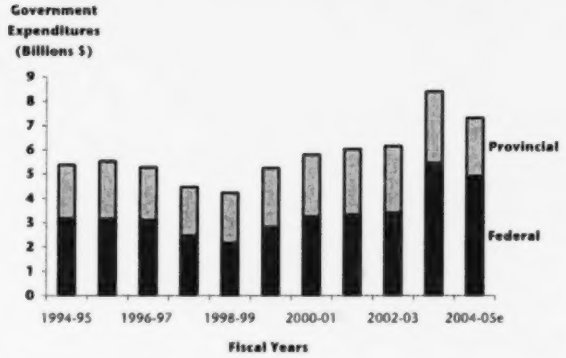
- **Federal and provincial governments provided a near record level of support to the agriculture and agri-food sector in 2004-05.**

  Total government expenditures in support of the agriculture and agri-food sector are estimated at $7.3 billion for the 2004-05 fiscal year.

  Government expenditures is an estimate of the money governments spend on the agriculture and agri-food sector in a given fiscal year. It includes expenditures on research and inspection, general administration and management, policy, information and statistical services and program payments.

  The government fiscal year runs from April 1 through to March 31.

Chart C1.1
Government Expenditures in Support of the Agriculture and Agri-Food Sector, 1994/95 - 2004/05 Fiscal Years

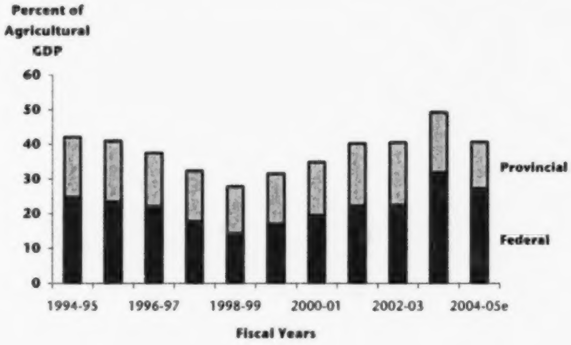


Source: AAFC.

Note: 2004-05 figures are estimates.

- In the 2004-05 fiscal year, total government expenditures in support of the agriculture and agri-food sector are estimated at 41% of the total agricultural GDP.

Chart C1.2
Government Expenditures in Support of the Agriculture and Agri-Food Sector, 1994/95 - 2004/05 Fiscal Years



Source: AAFC.

Note: 2004-05 figures are estimates.

Government support varies across provinces

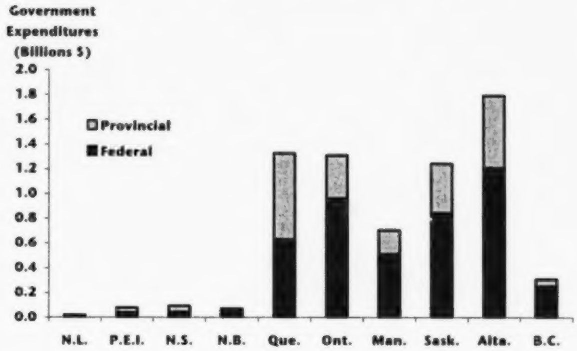
- **In the 2004-05 fiscal year, total government expenditures are expected to be higher than $1 billion for four provinces. These provinces are Alberta ($1.80B), Quebec ($1.33 B), Ontario ($1.31 B) and Saskatchewan ($1.25 B).**

Agriculture is a shared jurisdiction between federal and provincial governments with both levels of government co-operating in providing significant support to the sector. There is an agreement on the federal-provincial funding split for risk management programming. However, the federal and provincial shares of total expenditures vary across provinces because of different provincial program offerings and other types of support.

In the 2004-05 fiscal year the federal government provided the greatest share of government support in all provinces except Newfoundland, Quebec and Nova Scotia.

Chart C1.3

Government Expenditures in Support of the Agriculture and Agri-Food Sector by Province, 2004/05 Fiscal Year



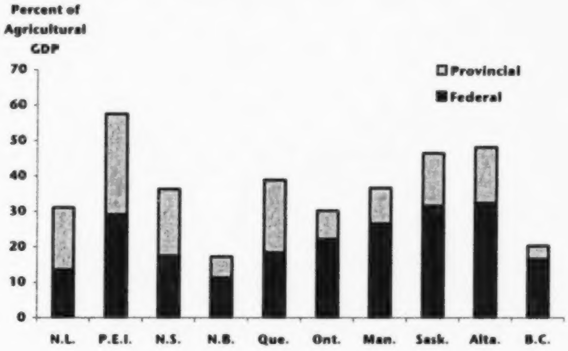
Source: AAFC.

Note: 2004-05 figures are estimates.

- **Government support, when expressed as a share of agricultural GDP, also shows variability between provinces.** On this basis, the agricultural sector in Prince Edward Island, Alberta and Saskatchewan received the most government support.

Chart C1.4

Government Expenditures in Support of the Agriculture and Agri-Food Sector by Province, 2004/05 Fiscal Year



Source: AAFC.

Note: 2004-05 figures are estimates.

Program payments make up the largest portion of government support

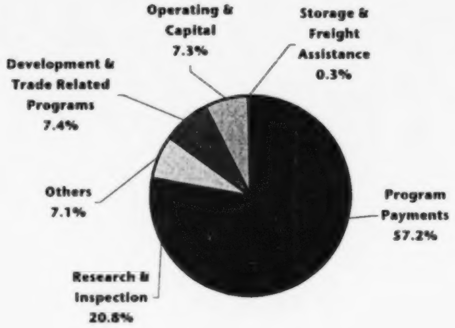
- **In the fiscal year 2004-05, federal program payments accounted for 57% of total federal expenditures in support of the agriculture and agri-food sector, while provincial program payments accounted for 39%.**

On the federal side, research and inspection is the second largest public expenditures category accounting for 21%; at the provincial level, it is 8%. "Others" is the second most important category at the provincial level. This category includes expenditures related to extension, education and tax expenditures, and accounts for 28% of provincial expenditures.

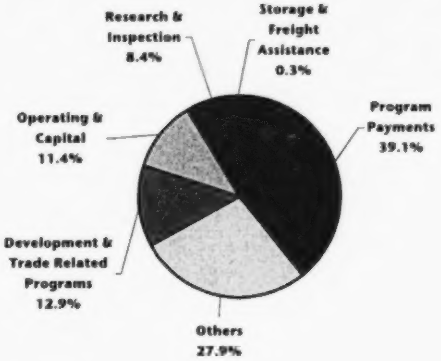
Chart C1.5

Government Expenditures in Support of the Agriculture and Agri-Food Sector by Major Category, 2004/05 Fiscal Year

Federal



Provincial



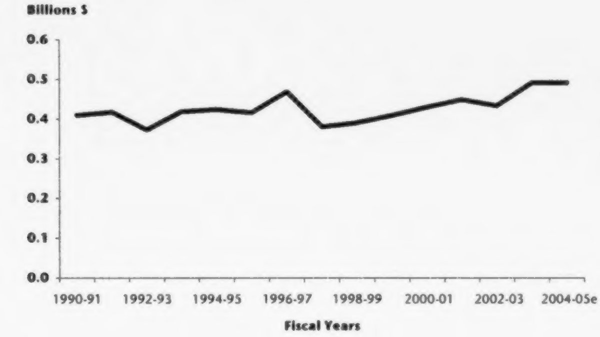
Source: AAFC.

Note: 2004-05 figures are estimates.

Canadian public research expenditures on agriculture are lagging compared to the U.S.

- **Total federal and provincial research expenditures on the agriculture and agri-food sector have been relatively stable over the last decade,** staying at around $400 million annually.

Chart C1.6
Government Research Expenditures on Agriculture, 1990/91 - 2004/05 Fiscal Years



Source: AAFC.

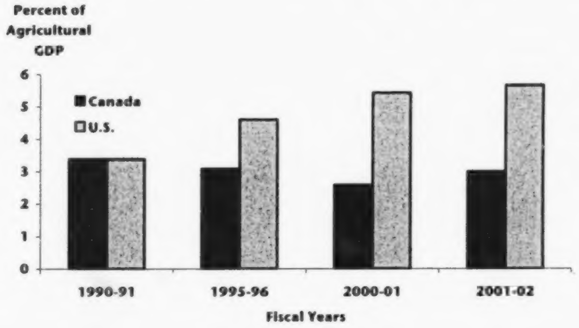
Note: 2004-05 figures are estimates.

- **Research expenditures in 2001-02 represent a slightly smaller share of agricultural GDP than they did in 1990-91** (3% compared to 3.4%)

In contrast, U.S. expenditures as a share of agricultural GDP have been rising, and now represent around a 5% share.

In Canada, a large part of publicly funded research is carried out by the federal government, although the government does give grants and contributions to private industry to do research (see Chart A4.5). In the U.S., the majority of publicly funded research is carried out by private firms and land grant universities.

Chart C1.7
Canadian and U.S. Public Research Expenditures on Agriculture, 1990/91 - 2001/02 Fiscal Years



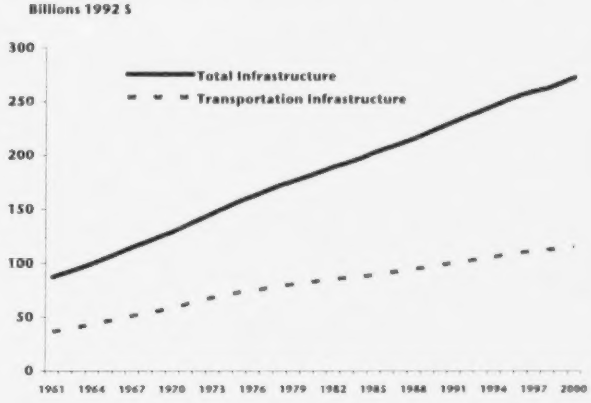
Source: Statistics Canada, AAFC, USDA, U.S. Department of Commerce.

Note: The U.S. fiscal year runs from October 1 through to September 30 while the Canadian fiscal year runs from April 1 through to March 31.

Public infrastructure investment has contributed positively to productivity growth in food processing

- **The total stock of public infrastructure* has increased in every year since 1961, but growth in this stock has slowed over time.** The annual growth rate in this stock was around 4.6% in the 1960's; since the 1980's, the growth rate has been close to 2% per year. Growth in the stock of transportation infrastructure** has similarly declined, reflecting a slow down in the expansion of road and highway systems.

Chart C1.8
Public Infrastructure in Canada, 1961-2000

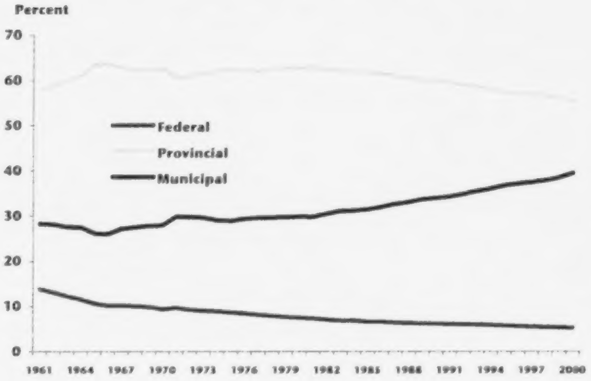


Source: Statistics Canada, National Wealth and Capital Stock Section.

- **Research shows that public infrastructure investment has had a significant positive influence on productivity growth in food processing,** reducing the cost of production and output distribution[12]. For example, the re-paving of a highway could allow processors to use their own transportation capital more effectively and could lower the cost of delivering output to consumers.

  While most transportation infrastructure is owned by provincial governments, municipal governments have been assuming an increasingly important role in the provision and improvement of local roads and highways. The federal government's share of the national stock of transportation infrastructure was only 12% in the 1960's; this share fell to only 6% in the1990's.

Chart C1.9
Transportation Infrastructure Share of each Level of Government, 1961-2000



Source: AAFC calculations.

*Public infrastructure is the quantity of physical capital owned by the municipal, provincial and federal governments of Canada. This includes buildings such as schools, libraries and post offices, engineering structures such as roads and sewers, and machinery such as snow removal vehicles and ambulances.
**Transportation infrastructure is a subset of engineering structures, and includes highways, roads, streets, runways, rail track, bridges, and tunnels.

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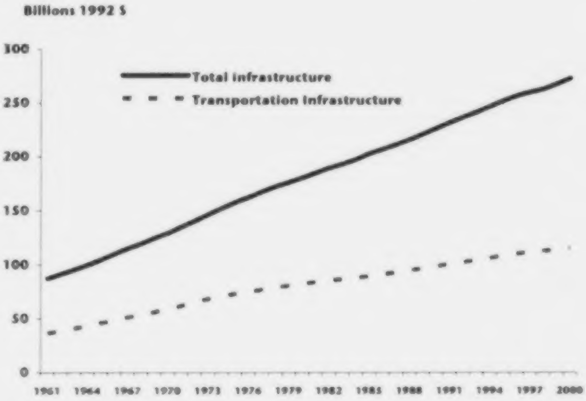

Source: Statistics Canada, National Wealth and Capital Stock Section.

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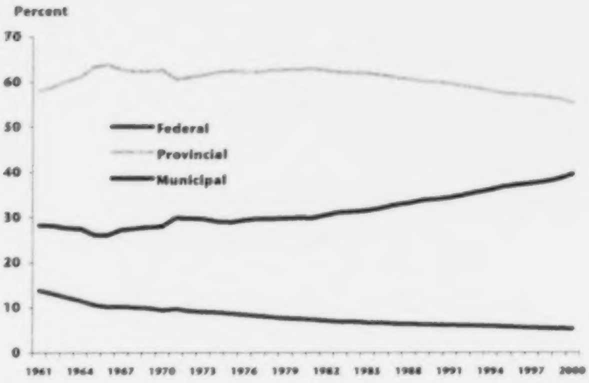

Source: AAFC calculations.

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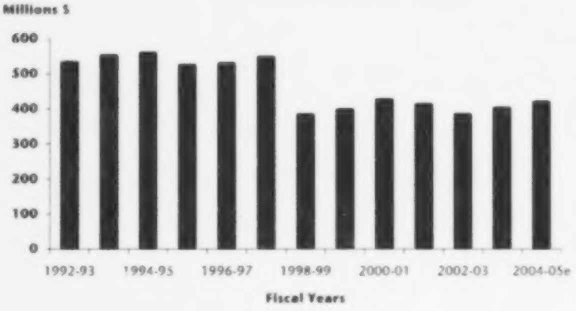
**Transportation infrastructure is a subset of engineering structures, and includes highways, roads, streets, runways, rail track, bridges, and tunnels.

Governments also use favourable tax measures to support the agriculture and agri-food sector

- **Foregone tax revenue is an important source of government support to the agriculture and agri-food sector.**

  In fiscal year 2004-05, tax exemptions and rebates associated with primary agriculture production are valued at around $421 million. This does not include sales and income tax rebates.

Chart C1.10
Support to Farm Producers through Tax Rebates and Exemptions, 1992/93 - 2004/05 Fiscal Years

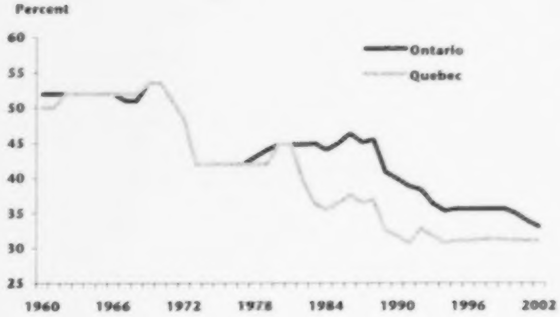


Source: AAFC.

Note: Includes fuel tax rebates, fuel tax exemptions and property tax rebates, excludes sales and income tax rebates.
2004-05 figures are estimates.

- The combined federal and provincial corporate income tax rate for manufacturing and processing* has fallen significantly in all provinces since the early 1960's. In Ontario and Quebec the rates were around 52%; by 2002, the rates in both provinces were between 33% and 31% respectively. Note that these rates apply to corporations primarily involved in food and/or beverage processing; they do not apply to incorporated farms.

Chart C1.11
Combined Federal/Provincial Corporate Income Tax Rate for Manufacturers and Processors, Ontario and Quebec: 1960-2002



Source: Cahill(2005).

*This is (basic federal rate- federal tax abatement rate)[1+(federal surcharge rate)] -(federal manufacturer/processor credit rate)+(provincial rate for manufacturers/processors).

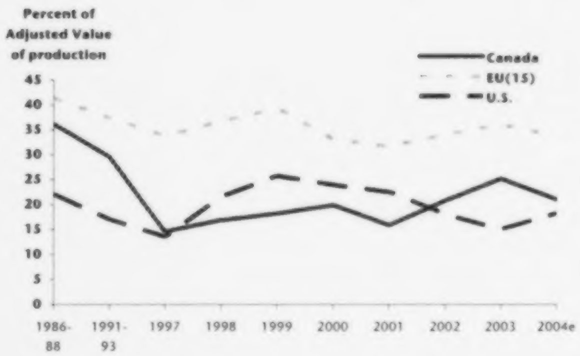
Support to Canadian producers in % PSE is comparable to the U.S. but less distortive

- **Over time, Canadian agricultural producers have become less reliant on policy support, as measured by the Producer Support Estimate (PSE).**

However, over the last three years, Canadian support has been higher than the U.S. mainly because of the federal and provincial governments' response to the BSE crisis.

In 2004, the PSE for Canada was 21% of adjusted value of production compared to 34% for the EU(15) and 18% for the U.S.

Chart C1.12
Producer Support Estimate, 1986-2004



Source: OECD and AAFC estimates.

Note: 2004 figures are estimates.

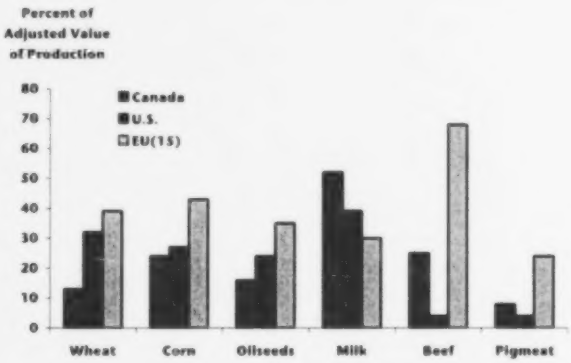
- **The support, measured by percentage PSE, varies across commodities within a country and varies across countries for a given commodity.**

PSE for beef in Canada is relatively higher in 2004 because of the government's response to the BSE crisis, however, it is still much lower than that of the EU(15).

While PSE for redmeat is higher in Canada compared to the U.S., PSE for grains and oilseeds in Canada is lower than in the U.S.

With the exception of the supply managed system, Canadian programs are based on a "whole farm" approach which does not mask market signals.

Chart C1.13
Producer Support Estimate by Commodity, 2004



Source: OECD and AAFC estimates.

Note: 2004 figures are estimates.

Endnotes

End Notes

1. Unless otherwise noted, component stages of the agriculture and agri-food system are defined according to the North American Industrial Classification System (NAICS). The glossary contains a detailed listing of included industries for each component stage of the system.
2. Maple Leaf Foods Inc. and/or Canada Bread Company, Limited, 2002, Food Safety, What We Do: Our Policies and Practices.
3. Wendy's International Inc., 2003, Corporate Initiatives.
4. McCain Foods Limited, McCain Worldwide.
5. Macdonald & Associates Limited www.canadavc.com
6. GlobeScan, Food Issues Monitor 2002, January 2003, page 7.
7. Ipsos Reid, New Thoughts for Food: Consumer Trends, A presentation to the Agriculture and Agri-Food Council, November 23, 2003, presented by Joanne Karman, Senior Vice President and Managing Director, Agri-Food.
8. GlobeScan Inc., Food Issues Monitor 2003, December 2003, page 18.
9. Canadian Restaurant and Foodservice Association, from CREST/NPD Information Group; NPD Group Eating Patterns in Canada Report, October 2003 www.crfa.ca.
10. Canadian Restaurant and Foodservices Association, InfoStats Quarterly, 2003.
11. Statistics Canada, 2001 Census of Agriculture.
12. Harchaoui and Tarkhani, "Public capital and its contribution to the productivity performance of the Canadian business sector", Economic analysis (EA) research paper series, Catalogue no. 11FOO27MIE-No. 017.

Glossary

The System's Components

Canadian Agriculture and Agri-Food System

The Canadian Agriculture and Agri-Food System is a value chain of industries focused on producing agricultural and food products. It includes agricultural input and service suppliers, primary agriculture, food, beverage and tobacco processors, food retailers/wholesalers, and foodservice establishments.

Agricultural Input & Service Suppliers

Agricultural Input and Service Suppliers are composed of the following industries as defined by the North American Industrial Classification System (NAICS):

at the 4 digit level

1151	Support Activities for Crop Production
1152	Support Activities for Animal Production
3253	Pesticide, Fertilizer and Other Agricultural Chemical Manufacturing
4171	Farm, Lawn and Garden Machinery and Equipment Wholesaler-Distributors
4183	Agricultural Supplies Wholesaler-Distributors

at the 5 digit level

33311	Agricultural Implement Manufacturing

Primary Agriculture

Primary agriculture is composed of the following industries as defined by NAICS:

at the 4 digit level

1111	Grain and Oilseed Farming
1112	Vegetable and Melon Farming
1113	Fruit and Tree Nut Farming
1114	Greenhouse, Nursery and Floriculture Production
1119	Other Crop Farming
1121	Cattle Ranching and Farming
1122	Hog and Pig Farming
1123	Poultry and Egg Production
1124	Sheep and Goat Farming
1125	Animal Aquaculture
1129	Other Animal Production

Food, Beverage and Tobacco (FBT) Processors

FBT processors are composed of the following industries as defined by NAICS:

at the 3 digit level

311	Food Manufacturing
312	Beverage and Tobacco Product Manufacturing

The System's Components (cont'd)

Food Retailers/Wholesalers

Food retailers/wholesalers are composed of the following industries as defined by NAICS:

at the 3 digit level

411	Farm Product Wholesaler-Distributors
413	Food, Beverage and Tobacco Wholesaler-Distributors
445	Food and Beverage Stores

at the 5 digit level

41911	Farm Product Agents and Brokers
41913	Food, Beverage and Tobacco Agents and Brokers
44422	Nursery Stores and Garden Centres
49312	Refrigerated Warehousing and Storage
49313	Farm Product Warehousing and Storage

Foodservice

Foodservice is composed of the following industries as defined by NAICS:

at the 3 digit level

722	Food Services and Drinking Places

at the 4 digit level

4542	Vending Machine Operators

Agriculture and Agri-Food Sector

The agriculture and agri-food sector is composed of all industries whose primary role is to produce food and agricultural products. It encompasses both primary agriculture and FBT processors.

Commercial Foodservice

Commercial foodservice includes full service restaurants, limited service restaurants, social and contract caterers and taverns.

Full service restaurants include licensed and unlicensed fine dining restaurants, family restaurants and restaurant bars.

Limited service restaurants include cafeterias, fast-food restaurants, food courts, and take-out and delivery establishments.

Social caterers provide foodservice for special events.

Contract caterers supply foodservice to airlines, railways, institutions and at recreational facilities.

Taverns are establishments primarily engaged in serving alcoholic beverages for immediate consumption, such as pubs, cocktail lounges and nightclubs.

Food Distribution Sector

The food distribution sector is composed of all industries whose primary role is to directly provide and service the final consumer with food and agricultural products. It encompasses food retailers/wholesalers and foodservice establishments.

The System's Components (cont'd)

Food-Only Processors
Food-only processors refer to manufacturers of food where food is defined in the narrowest sense (i.e. excludes beverage and tobacco products).

Non-food Processors
Non-food processors encompasses all industrial use of farm products other than food or animal feed consumption. It includes bio-products manufacturers as well as the more traditional non-food industries such as leather tanneries and textile mills.

Other and Non Commercial Foodservice
Other foodservice includes accommodation, institutional retail and other foodservice.

> **Accommodation foodservice** is foodservice offered by hotels, motels and resorts.
>
> **Institutional foodservice** is foodservice in hospitals, residential care facilities, schools, prisons, **factories and offices.**
>
> **Retail foodservice** is foodservice operated by department stores and conveniencestores.
>
> **Other foodservice** includes vending machines, movie theatres, stadiums and other seasonal or entertainment operations.

Occupations

Occupations in Primary Agriculture

Farmers and Farm Managers
These manage the operations and functions of a farm. They are responsible for growing crops, raising and breeding livestock and marketing farm products.

Farm Supervisors and Specialized Livestock Workers
These supervise the work of general farm workers and harvesting labourers, carry out livestock feeding, health and breeding programs and perform general farm duties.

General Farm Workers
These plant, cultivate and harvest crops, raise livestock, maintain and repair farm equipment and buildings and operate farm machinery.

Harvesting Labourers
These assist other farm workers to harvest, sort and pack crops.

Nursery and Greenhouse Operators and Managers
These plan, organize, direct and control the activities of nursery and greenhouse staff who grow and market trees, shrubs, flowers and plants.

Nursery and Greenhouse Workers
These plant, cultivate and harvest trees, shrubs, flowers and plants, and serve nursery and greenhouse customers.

Occupations in Food Processing

Supervisors, Food, Beverage and Tobacco Processing
These supervise and co-ordinate the activities of workers who operate processing machines, and package or grade food, beverage and tobacco products.

Machine Operators and Related Workers in Food, Beverage and Tobacco Processing
These include process control and machine operators; industrial butchers and meat cutters, poultry preparers and related workers; fish plant workers; tobacco processing machine operators; and testers and graders.

Labourers in Food, Beverage and Tobacco Processing
These perform material handling, clean-up, packaging and other elemental activities related to food, beverage and tobacco processing and labour in fish processing.

Occupations in Food Distribution

Grain Elevator Operators
These purchase grain from farmers, determine the grade, quality and weight of grain delivered, and maintain records for farmers and companies.

Retail Trade Supervisors
These supervise and co-ordinate the activities of cashiers, grocery clerks and store shelf stockers.

Bakers and Butchers
Bakers prepare bread, rolls, muffins, pies, pastries, cakes and cookies and are employed in bakeries, supermarkets, catering companies, hotels, restaurants, hospitals and other institutions. Butchers and meat cutters prepare standard cuts of meat, poultry, fish and shellfish for sale in retail or wholesale establishments.

Occupations

Cashiers
These operate cash registers, optical price scanners, computers or other equipment to record and accept payment. They are employed in stores and restaurants.

Restaurant and Food Service Managers
These plan, organize, direct, control and evaluate the operations of restaurants, bars, cafeterias and other food and beverage services.

Food Service Supervisors
These supervise, direct and co-ordinate the activities of workers who prepare, portion and serve food. They are employed by hospitals and other health care establishments and by cafeterias, catering companies and other food service establishments.

Occupations in Food and Beverage Service
These include maîtres d'hôtel, hosts/hostesses, bartenders and food and beverage servers.

Food Counter Attendants, Kitchen Helpers and Related Occupations
These include counter attendants, food preparers, kitchen helpers, food service helpers and dishwashers.

For more information about the National Occupation Classification (NOC) please see http://www.statcan.ca/english/Subjects/Standard/soc/2001/n0cs01-menu.htm

Trade Categories

Agriculture and Agri-Food Exports
Agriculture and agri-food exports include the export of agriculture commodities, food (excluding fish and fish products), non-alcoholic beverages (including bottled water), alcoholic beverages, tobacco products, floriculture and nursery.

Agriculture and Agri-Food Imports
Agriculture and agri-food imports include the import of agriculture commodities, food (excluding fish and fish products), non-alcoholic beverages (including bottled water), alcoholic beverages, tobacco products and floriculture and nursery.

Intra-Industry Trade
Intra-industry trade is trade between two countries of the same commodity/product.

Intra-Firm Trade
Intra-firm trade are transactions between different parts of multinational firms located in different countries. It also encompasses the assigning of different product mandates to different production facilities by headquarters.

Trade Classification
Trade statistics for the agriculture and agri-food system are categorized according to the BICO classification system which separates products into three different groupings: bulk, intermediate, and consumer oriented.

- **Bulk (B)**
  Products that have received little or no processing, such as, wheat, feed grains and oilseeds.
- **Intermediate (I)**
  Products that have received some processing, but generally are not yet ready for final consumption. Examples include wheat flour, vegetable oils and slaughter animals.
- **Consumer Oriented (CO)**
  Products that require little or no additional processing and are basically ready for human consumption.
  Examples include dairy products, eggs, beef, fresh fruits, and floriculture, as well as canned soups, frozen meals, baby foods, etc.

Value-Added Trade
Value-added exports/imports include exports/imports of all intermediate and consumer-oriented goods.

Government Support Categories

Government Expenditures
Government spending (at all levels) on agriculture and food processing in a year, both direct and indirect, to individuals, agencies or associations.

Direct
Involves a direct transfer of funds between taxpayers and farm producers.

Indirect
Involves government expenditures that support the agriculture and agri-food sector, but are not directly given to producers.

Major Categories of Expenditures

Development, Trade and Environment Related Program Expenditures
Include administration and capital expenditures incurred by the government to work on regional development, marketing and trade, and environmental activities as well as grants and contributions issued by the government for work on these activities.

Operating and Capital Expenditures
Include government expenditures on general administration and management, and on policy, information and statistical services.

Other Expenditures
Include government expenditures on food aid and international assistance, extension, and education as well as social program payments.

Program Payment Expenditures
Include payments for income support and stabilization programs, ad hoc and cost reduction programs, crop insurance programs and financing assistance programs.

Research and Inspection Expenditures
Include administration and capital expenditures incurred by the government to perform research and inspection activities, as well as grants and contributions issued by the government for work on these activities.

Storage and Freight Assistance Expenditures
Program payments for storage and freight.

Producer Support Estimate (PSE)

A yearly measure of policy support to farm producers. It is the sum of market price support and budgetary payments to producers, expressed either as a percentage of the product's unit value, or its Adjusted Value of Production.

Adjusted Value of Production (AVOP)
The value of production plus the direct transfers received by producers in the current year.

Government Support Categories (cont'd)

Public Infrastructure
The quantity of physical capital owned by the municipal, provincial and federal governments of Canada. This includes buildings such as schools, libraries and post offices, engineering structures, and machinery such as snow removal vehicles and ambulances.

Transportation Infrastructure
This is a subset of engineering structures, and includes highways, roads, streets, runways, rail track, bridges, and tunnels.

Economic and Statistical Terminology

Census Farm
An agricultural operation with Gross Farm Receipts > $2,499 that produces at least one of the following products intended for sale: crops (field crops, tree fruits or nuts, berries or grapes, vegetables, seed); livestock (cattle, pigs, sheep, horses, exotic birds, etc.), animal products (milk or cream, eggs, wool, fur, meat), or other agricultural products (greenhouse or nursery products, Christmas trees, mushrooms, sod, honey, maple syrup products).

Concentration Ratio (CR4)
The concentration ratio is a measure of an industry's concentration level and expresses sales of a set number of the top firms in the industry as a percentage of total industry sales. CR4 is the acronym for the concentration ratio of the top four firms in the industry.

Debt to Equity Ratio
The debt to equity ratio is calculated as borrowings plus loans and accounts with affiliates all divided by total equity.

Farm Market Receipts
Farm market receipts refers to cash income from the sale of agricultural commodities, but excludes direct program payments to producers.

Farm Net Worth
Farm net worth is measured as the total assets of the farm evaluated at current market value less total liabilities.

Foreign Direct Investment (FDI)
Foreign direct investment refers to investment by non-residents in an enterprise where the non-residents own 10 percent or more of the ordinary shares or voting power in incorporated enterprises or the equivalent in unincorporated enterprises.

Gross Domestic Product (GDP)
The gross domestic product for a country is the total unduplicated value of the goods and services produced in that country during a given period.

Gross Farm Receipts
Gross farm receipts include cash income from the sale of agricultural commodities and direct program payments. They are compiled from census forms sent to all farms every five years.

Gross Margin Ratios
Gross margin ratios are calculated as the ratio of gross margin earned by a farm relative to its market revenue.

Hobby Farms
Census farms that report less than $10,000 in sales of agricultural commodities.

Intramural R&D Expenditures
Intramural R&D expenditures are all expenditures on research and development that are made by a particular organization in a given time frame and includes work financed by others.

Labour Productivity
Labour productivity is a measure of an industry's output per hour of labour worked.

Multifactor Productivity
Multifactor productivity measures the efficiency in use of all inputs. Its growth is calculated as the rate of growth of output less the rate of growth of all inputs.

Economic and Statistical Terminology (cont'd)

Profit Margin Ratio
The profit margin ratio is calculated as operating profits divided by operating revenues.

Rate of Return on Long-Term Capital
The rate of return on long-term capital is calculated as operating income (without deducting either taxes or interest paid) divided by long-term capital where long-term capital is taken to be the sum of shareholders' equity and long-term debt.

Realized Net Farm Income
Realized net farm income is calculated as realized net market Income plus government program payments.

Realized Net Market Income
Realized net market income is calculated as farm market receipts plus income in kind less operating expenses and depreciation.

Return on Equity Ratio
The return on equity ratio is calculated as after-tax profit multiplied by 4, divided by total equity.

Value-added Production
Value-added production refers to products that have undergone some processing.

Miscellaneous Terms

EU(15)
Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom.

"Other" Definitions in Charts

Miscellaneous Farm Expenses
Include repairs to building and fences, business insurance, custom work, stabilization premiums, legal and accounting fees and other expenses not elsewhere classified.

Other Canadian Sources
Include funds from related companies, from R&D contracts for other firms and grants and contractors from the provincial governments.

Other Commodities
Include sugar beets, potatoes, flora and nursery products, tobacco, ginseng, mustard seed, sunflower seed, lentils, canary seed, dry beans, dry peas, forage & grass seed, hay & clover, maple products, forest products, Christmas trees, miscellaneous crops, wool, honey, fur, miscellaneous livestock.

Other Food
Includes snack food manufacturing, coffee and tea manufacturing, flavouring syrup and concentrate manufacturing, seasoning and dressing manufacturing and all other manufacturing not elsewhere classified.

Other Land
Includes land on which farm buildings, barnyards, lanes, home gardens, greenhouses and mushroom houses are located; idle land; wood lots sugarbush; tree windbreaks; Christmas tree plantings; bogs; marshes; sloughs; etc.

Other Personal Expenditures on Goods
Include personal expenditures on drugs and pharmaceutical products and personal effects not elsewhere classified.

Other Personal Expenditures on Services
Include personal expenditure on accommodation services, personal care, household maintenance and childcare, education and cultural services, operating expenses of non-profit organizations and other auto-related services.

Other Prairie Commodities
Include sugar beets, potatoes, vegetables, fruits, flora and nursery, tobacco, forage and grass seed, hay and clover, maple products, forest products, Christmas trees, miscellaneous crops, dairy, poultry, eggs, wool, fur, honey and miscellaneous livestock.

Tame Pasture
Pasture that has been cultivated and seeded, irrigated, fertilized and/or controlled for weeds.

Miscellaneous Terms (cont'd)

Other and non-commercial foodservice include:

Accommodation - foodservice operated by accommodations such as hotels and motels;

Institutional - foodservice located in institutions such as education, hospitals, prisons and military;

Retail - foodservice operated by department stores, convenience stores, and other retail establishments;

Other foodservice - includes vending machines, sports and private clubs, movie theatres, stadiums, and other seasonal or entertainment operations.

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